

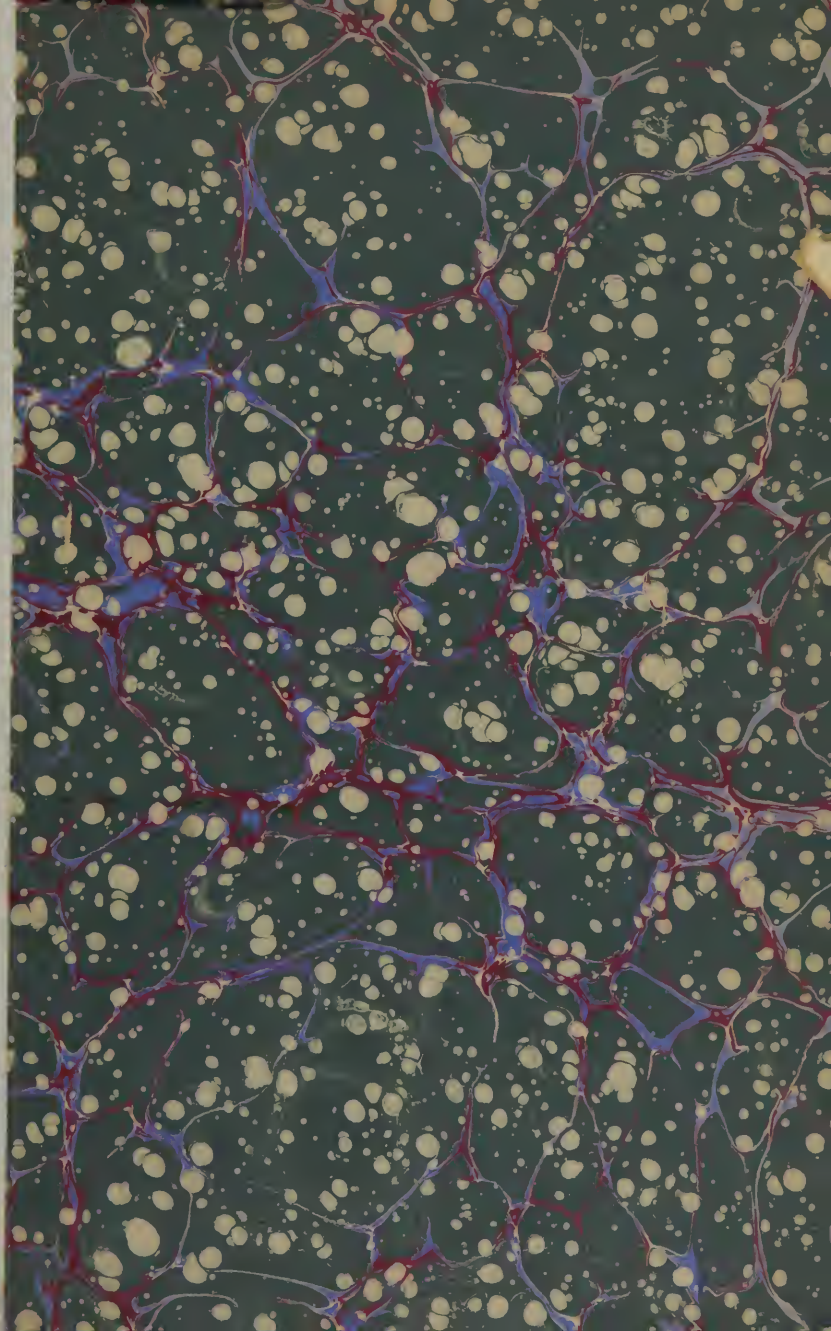
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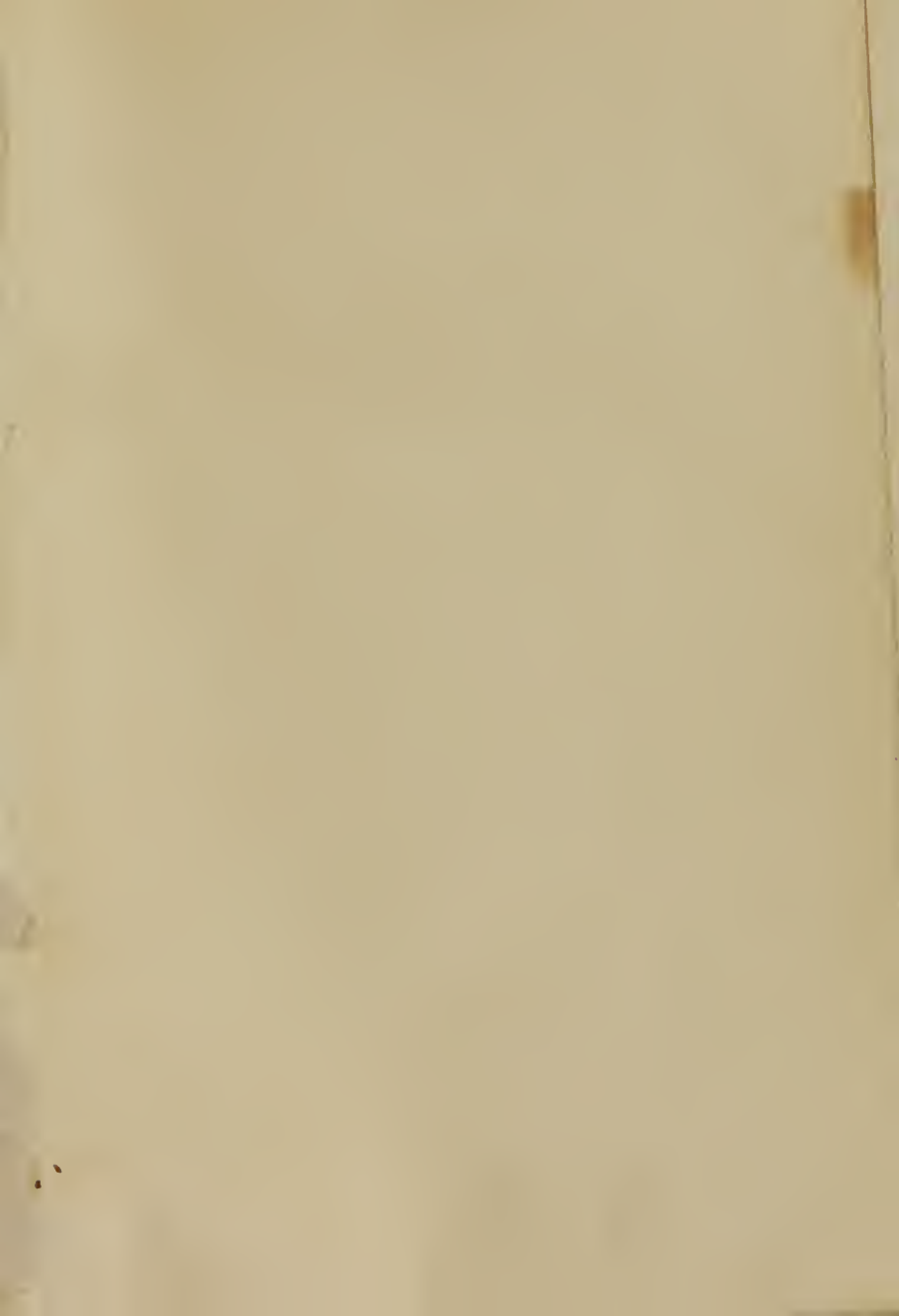
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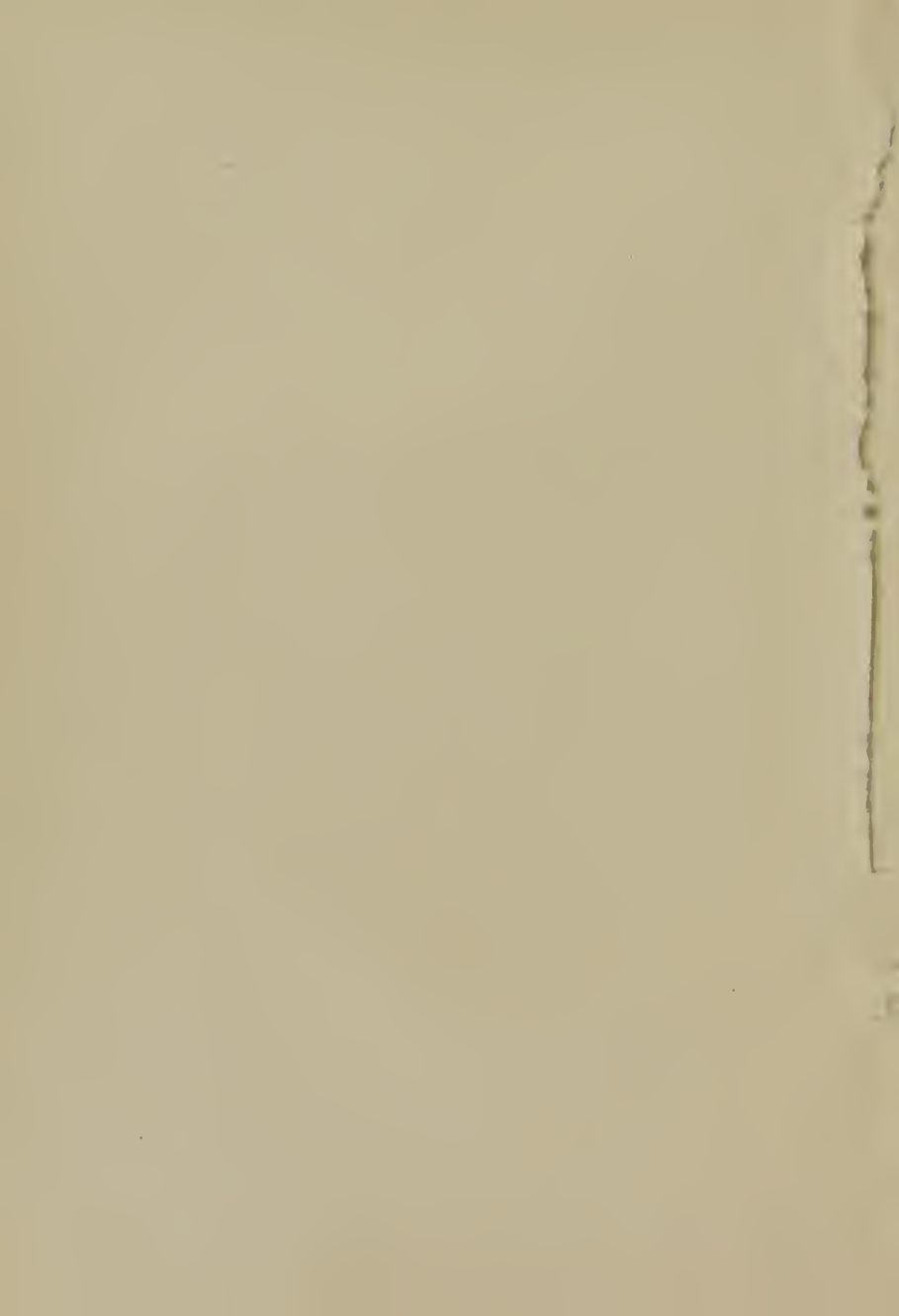
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HYGIENIC
AND
SANATIVE MEASURES.

PRESENTED

To M.....

You are expected to read this book through carefully and to follow such instructions as are suited to your case.

The subjects most important to you are on pages These, you are to read several times, that the precepts inculcated therein, may be permanently impressed upon your memory. Please bear it constantly in mind that your permanent recovery will depend largely upon your living in obedience to the hygienic and sanative measures mentioned in this work.

Yours, with kind regard ;

THOS. F. RUMBOLD.

HYGIENIC
AND
SANATIVE MEASURES
FOR
CHRONIC CATARRHAL INFLAMMATION
OF THE
NOSE, THROAT AND EARS.

SIXTEEN ILLUSTRATIONS.

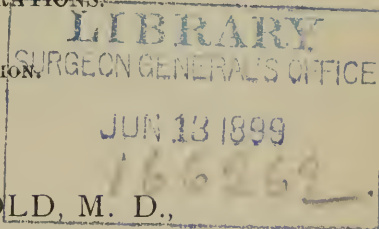
SECOND EDITION.

BY

THOS. F. RUMBOLD, M. D.,

Professor of the Diseases of the Nose, Throat, and Ears, in the
College for Medical Practitioners of Saint Louis, Mo.; Fellow
of the American Laryngological Association; Permanent
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of the International Medical Congress, London,
England; Author of The Treatment of Chronic
Catarrh of the Nose, Throat and Ears, etc.

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THIS LITTLE BOOK IS RESPECTFULLY
INSCRIBED
TO MY ASSOCIATES IN THE
COLLEGE FOR MEDICAL PRACTITIONERS
OF SAINT LOUIS, MO.

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PREFACE TO SECOND EDITION.

There is nothing that pleases an Author so much as a due appreciation of his efforts and a rapid sale of his works. In less than one year the First Edition of this little book was exhausted. The very favorable comments made by my reviewers was exceedingly pleasant and somewhat unexpected, as I had occupied new ground, and advocated theories very diverse from those who had written on the subject.

The present Edition has been entirely rewritten and some new matter on every subject added. Of course no attempt has been made to exhaust any one subject.

While it is noticeable that the interest taken in this subject is steadily and rapidly increasing, yet in my opinion its importance is still underrated. I am very certain the profession will find that the most successful method of eradicating chronic catarrhal inflammation of the respiratory organs, is through the enforcement of proper hygienic and sanative

measures. I believe, also, that many ailments that are now treated as separate diseases, will be found to have originated in chronic inflammation of the nasal passages, and chief among these diseases is the disease of the mind, there being few severely affected catarrhal patients whose minds are not, to some degree, affected.

ST. LOUIS,
JULY, 1882.

T. F. R.

PREFACE TO FIRST EDITION.

During the last twenty years, I have made the Hygiene of Catarrh a constant study. I had been but a few years in the practice of this specialty, when I perceived that the successful management of this most common and tenacious complaint depended on the faithful observance of laws of health. I soon also found that even after patients had recovered as completely as it was possible for them to do, the continued observance of hygienic rules were essential to the maintenance of their health.

It is absurd to expect that a patient can be successfully treated while he continues to violate the laws of health. One might as consistently ask a physician to cure him of a burn, while he continues to expose himself to the fire, as to ask to be relieved of a catarrh while he neglects to employ the means to prevent its cause. The beneficial effects of the observance of the laws of hygiene is especially noticeable on young catarrhal subjects, a large number of whom will recover without other aid.

For these reasons, I commenced in 1862, to give such rules to my patients, as observation taught me were beneficial, in guiding them through those seasons of the year in which they were most liable to take cold; these I have given in the form of chapters. To

these chapters I have added several others on Sanitary Measures.

It has been my aim to simplify, as much as possible, the methods of cleansing the inflamed mucous membrane, but I have not sacrificed thoroughness for simplicity, nor have I sacrificed mildness for any other quality.

I do not claim that what is written here is new, but I do say, that it has not been given with sufficient detail and earnestness by any writer on this subject. Some may think that I have been too prolix on some points, but now that my book is in type, I fear that I have not been as definite as the importance of the subjects demand.

T. F. R.

1225 WASHINGTON AVE.

Sept. 1880.

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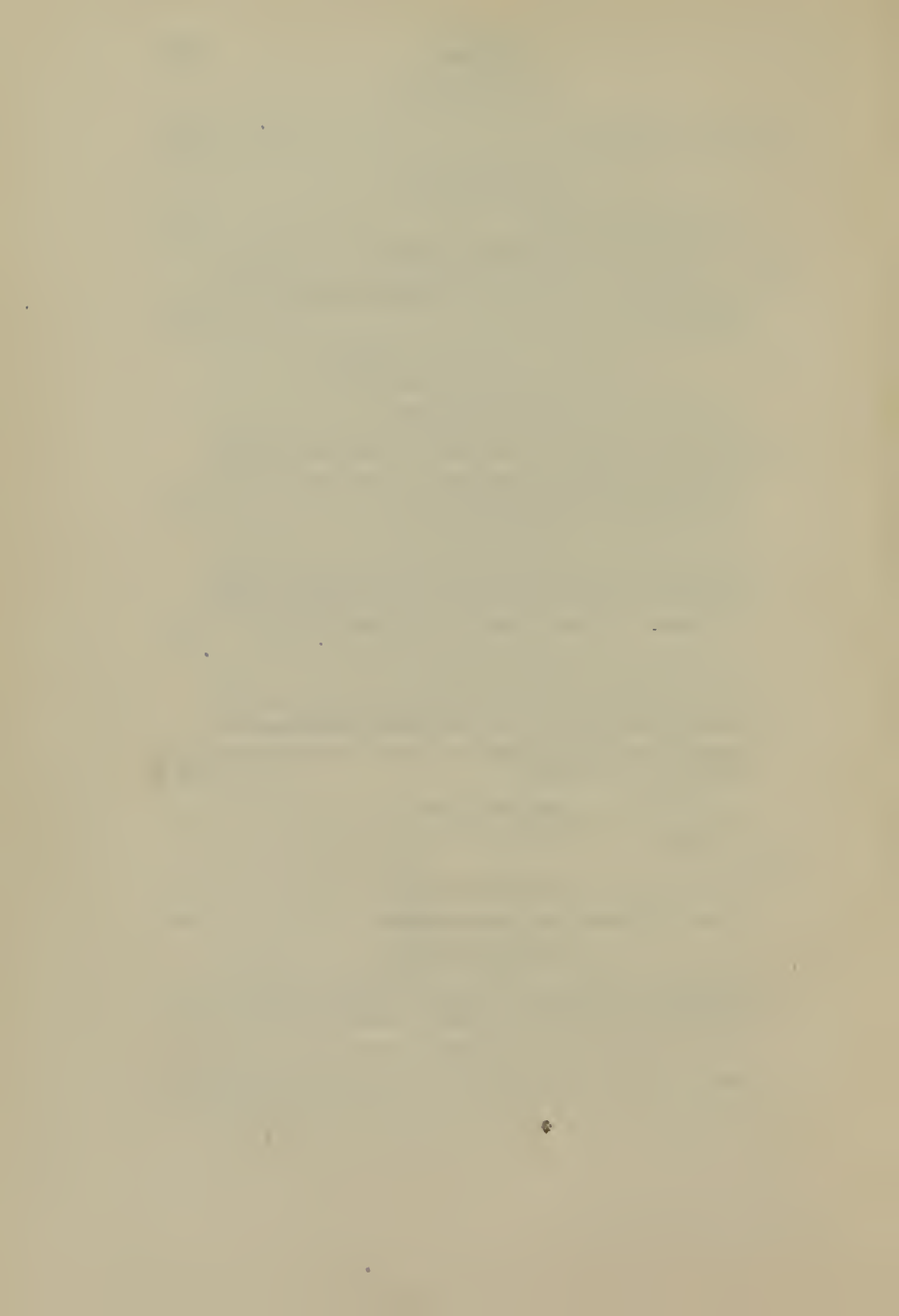
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HYGIENIC MEASURES.

INTRODUCTION.

Chronic catarrhal inflammation of the mucous membrane of the nasal passages and the cavities connected with them, requires a different management from that given to other diseases, for the reason that the patient's daily habits, customs and dress have a controlling influence on the causation or prevention of the complaint.

In the early part of the year 1868, I treated a number of patients for catarrhal inflammation of the throat and nasal passages, who were in the habit of frequenting a skating rink. They, after exercising violently for a time, would seat themselves on the ice, or a bench in the cold air, to rest, and thus become thoroughly chilled. I was unsuccessful in my treatment of these cases, not being able to do more than to alleviate their most prominent symptoms. This fact suggested the reading of memoranda kept of the treatment of a few very intelligent patients, who had at different times, during the five years previous, been under my care for the treatment of catarrhal disease. These patients had carefully noted their symptoms, and had closely watched all points of conduct per-

taining to their general health. Their statements struck me as being of more than ordinary importance, and showed, too, a striking similarity, as regards the causes that usually give rise to and aggravate the disease; the care experience had taught them to take of themselves; the amount and kind of clothing that proved sufficiently protective; and the best means found to relieve a fresh attack of cold in the head or throat.

That it was of the utmost importance to study the cause and prevention of catarrhal disease, had been gradually forcing itself upon my attention for several years past. Indeed I had kept the memoranda because of the impression, that such a course might aid me in my search for the proper treatment of the complaint. From the statements of these patients, I concluded, that the constant violation of the laws of health was one great reason why the disease was so obstinate in yielding to treatment, and one reason, too, why I failed in my treatment of the skating rink cases.

The paramount importance of hygiene in the management of this disease then first dawned upon me. As I contemplated the effects of oft repeated colds upon the mucous membrane of the air passages, and called to mind the remarks on this subject, of several of my most intelligent patients, I became convinced that the strict observance of hygienic measures was an indispensable means for the prevention and removal of catarrhal inflammation.

Patients suffering from whatever disease, should so assist their medical adviser, as to insure as speedy and permanent a recovery as possible. But with catarrhal patients this assistance is absolutely indispensable, a recovery, without it, is not possible. A majority of patients appreciate this fact when the subject is fully presented to them, yet not a few of them are ignorant concerning many of the details of the laws of health. For this reason each patient, should, on their first visit, be informed of such hygienic laws and sanative measures as are suited to their particular case.

These instructions should relate to the importance of avoiding any exposure liable to produce a cold; to the best method of protecting the head, neck, body and extremities; to the danger of exposure to draughts and night air; to the proper attention to the temperature, and ventilation of the sleeping-room; to the kind of food that should be eaten; to the importance of physical exercise and what time it may be most judiciously taken; to the injury resulting from not controlling the disposition, if it be irritable; to the danger arising from cold feet, and the way to maintain them warm, if they are habitually cold; to the necessity of maintaining the nasal and aural passages in a clean condition, if the catarrhal secretion is profuse, and the most effective means to be employed for the purpose; to the kind of bath that may be used and the manner and time in which to use it; to the necessity of abstaining

from the use of tobacco; to the importance of having diseased gums and decayed teeth properly treated by a dentist; to the course to pursue when a cold has been contracted, and to any other hygienic or sanative measures tending to regain and preserve health. It will seldom happen that any one patient will need to be advised regarding all of these subjects, but instructions concerning the greater portion of them must be given to every patient.

The successful treatment of chronic catarrh of the superior portion of the respiratory tract, may be likened to the successful suspension of a chain. If any one of its links are broken, the chain drops. So with the treatment of this disease. It may be said that one link of the chain is called protection to the head, neck, body and extremities, another link, danger of draughts and night air, another, injury resulting from not controlling an irritable disposition, another, maintaining the nasal and aural passages in a clean condition, another, abstinence from the use of tobacco, and so on through the whole list of hygienic and sanative measures, and the last link, therapeutic measures. Now, if any one of these links is broken—it is a matter of indifference which one it is—the chain is broken and falls, and the attempt to bring about recovery is unsuccessful, whether it be the patient's or the physician's fault.

My experience leads me to affirm positively, that unless catarrhal patients take such care of themselves, by proper attention to their dress, habits and daily

customs, as to lessen to a great degree the severity of returning colds, the disease cannot be controlled by either a local or constitutional treatment, or by both. It is only during the observance of hygienic and sanative measures that therapeutic measures can be successfully employed.

It is characteristic of catarrhal inflammation to establish a susceptibility to renewed attacks of cold. That is, past colds have so weakened the mucous membrane, that it becomes inflamed on the body's being exposed to a degree of cold, which, at an earlier stage of the complaint would not have produced an injurious effect. In the more chronic stages of the disease, the more often will the patient complain of this peculiarity. Past experience proves that in the treatment of patients who have been afflicted so long as to have acquired this susceptibility, the dependence upon medicines alone must result in failure; as it is evident they cannot ward off colds, this is to be accomplished by conforming to rules pertaining to the general health of the body. But it is equally evident that the observance of these rules cannot give immediate relief to an irritation caused by morbid secretions, or to a pain occasioned by a local congestion; this relief must be the result of remedies locally applied. It follows, therefore, that the complete treatment of this disease requires the combination of hygienic and therapeutic measures.

It should not be expected that a chronic disease, originating solely from a repeated violation of the

laws of health, can even be ameliorated, while the patient continues to violate these laws. Not only must these violations cease, but such measures must be instituted as will prevent the continuance of the diseased action already set up; in which event the reparative processes will in a longer or shorter time, according to the age of the patient, restore the inflamed membrane to its normal condition, or to such a condition that the patient will not be conscious of the existence of the complaint. This restoration cannot be completed in a few weeks, nor in a few months, because the changes in the mucous membrane have been too great for a cure to be effected in so short a time. Time was required for congestion to produce the condition called chronic catarrhal inflammation; time will also be required for the reparative processes to undo or eradicate it. For this reason the observance of hygienic principles must not cease with the termination of the medical treatment, but must be continued for several years thereafter, or so long as there is a susceptibility to take cold.

From the foregoing remarks it will be readily seen that in the treatment of this disease, the observance of hygienic measures is of far greater importance, than those relating to therapeutics.

CHAPTER I.

COLDS;

THE EFFECT AT DIFFERENT AGES, AND THE
IMPORTANCE OF PREVENTION.

Until it is generally conceded, that every individual who has been in the habit of taking colds in the head, has catarrh of a more or less severe form and of a more or less chronic character, the importance of *preventing* colds will not be given due weight. While almost every person will freely acknowledge that they not only frequently take cold, but almost constantly do so, yet not one in a hundred will admit for a moment that ^{he is} they are afflicted with catarrh of the nasal passages, and are horrified at the suggestion.

It will not further the object of this work to enter into a discussion of the "theory of a cold," the subject may be elucidated with sufficient clearness to accomplish the purposes contemplated, by giving a few of the most prominent phenomena of colds, as observed in different ages, from childhood to old age, and at the same time giving the possible curability of the disease at the different ages of the patient. Both the phenomena of the colds and the stages of curability bear a constant relationship to each and will plainly indicate the very great importance of

preventing colds by hygienic measures, as this will make it manifest to every observing person that the older the disease, the greater the liability to take colds and the less the probability there will be for a speedy or permanent cure.

The importance of studying chronic nasal catarrh will be conceded, when we take into consideration the immense number of persons in the world who are afflicted with it. I am very certain that this disease and the complaints resulting therefrom, represent more suffering than is represented by any other disease that we are called upon to treat, yet I am sorry to say that this class of individuals receives, from our profession less sympathy, less aid than does any other class of patients. Having been discouraged, by their own medical adviser, who belittled their complaint after failing to afford them the least relief, and having experimented with one after another of the numerous nostrums advertised in the public prints, they go flitting from one physician to another endeavoring to get rid of their ever present distress. Generally, they gradually become worse in consequence of the continually increasing severity of the disease, which almost always involves and impairs some important organ, and sometimes from efforts, honestly though erroneously made, to quickly cure them by local applications ^{which} ~~that~~ are more or less irritating in their effects.

The earliest manifestations of a cold in the infant are increased flow of apparently normal mucus, and a slight increase of the color of the mucous membrane,

soon followed by its becoming more or less thickened. From this stage, the morbid processes are characterized by conditions ^{which} ~~that~~ are apparently, very diverse. Sometimes the papillæ of the mucous membrane are temporarily enlarged, producing an irregularity of surface. With proper hygienic management, these swellings or irregularities pass away, leaving the membrane in apparently a normal condition, even after the discharge of a comparatively large quantity of muco-purulent secretion. Sometimes the character of the inflammation is still more intense, serous exudation takes place from the blood vessels into the surrounding structure, known as an infiltration of serum within the mucous membrane itself, or as œdema. Even after diseased action of such intensity (provided that no organs, vital to the child's existence are involved) the inflamed parts will regain their normal condition, for the reason that the inflammation, while of so severe a type, must necessarily be of so short duration that it cannot produce any permanent change in the constituent parts of the mucous membrane, and, to produce a chronic condition, inflammation of a grade that is possible to last for a long time, must exist.

While giving some of the objective symptoms which may aid us in determining the curability of chronic nasal catarrh, I wish to make note of some well-marked peculiarities in the expression of catarrhal patients, and in the absence or presence of certain symptoms. I think that these expressions and symp-

toms—which vary in different aged patients—may also assist in indicating the stage or the curability of the disease. The conclusions I draw from my observations are the following: 1st. If chronic inflammation of the mucous membrane has not produced painful sensations, recovery is possible. 2nd. If the inflammation is of such an age that patients are made cognizant, by reason of various disagreeable symptoms, complete recovery is seldom to be expected. I do not say that the absence or presence of pain or disagreeable sensation can be uniformly taken as an invariable guide, but that it can be noticed in the majority of cases. Of course, I have had patients who, though sixty years of age, had chronic inflammation of the nose, throat and ears of the most persistent form, but who had not experienced a single disagreeable sensation, nor did they receive even the least benefit from treatment, and others, ^{who} were quite young, ~~that~~ had experienced great pain in all the inflamed parts, yet recovered completely, but I think ~~that~~ such cases are very rarely observed.

It is not until the age of from three to fifteen years is attained, that we see the effect of long continued diseased action, in the enlargement of the tonsils or in the perforation of the membrana tympani. But even in this stage of catarrhal disease, if the patient is properly taken care of, without medical aid, every sign of inflammation and of the perforation of the drum-head will disappear.

All patients, up to the tenth year of age, are uncon-

scious of an exposure ^{which} ~~that~~ they think might result in a cold being taken, they are oblivious to the dangerous sequences of exposure. Never in my life have I known a child of this age say that it had taken a cold. They do not know the full meaning of the expression. They will know whether they have or have not been out of doors without their usual clothing, they will know if they have been chilly in a cold room, or in a cold hall, or in a wagon or carriage, but they cannot give one subjective symptom of a cold, such as is so frequently given by those who are several years older, and, with many of them, were it not for the objective symptoms, it would not be known that they had taken a cold. But on examination of the nasal and faucial passages after the catarrhal secretion is removed, we see a degree of inflammatory action, that we know must have been the result of the effects of many colds, taken for several years.

This indicates that the grade of inflammation must have been so mild in character and so slow in action, that the earliest symptoms have passed unobserved by either the parents or the patient; this is known by the latter not having any disagreeable sensations of which to complain. The symptoms, if any, will be noticed by the parents, not by the child; the former may observe the child breathing with its mouth open, or that it may require the frequent use of a handkerchief to free its nasal passages, but the greatest hardship ^{which} ~~that~~ the child experiences is the act of blowing

its nose in obedience to its parent's direction. I do not say that some of them may not have headache and earache, and severe ones too, but this happens in one case out of about 20 or 30 cases.

I believe that one half of these patients will recover completely, if proper hygienic measures and domestic remedies are employed, and almost every one of them will recover if placed under proper medical care. It is with this class of patients that we first see an unconsciousness of the complaint and a possibility of complete recovery of the chronically inflamed mucous membrane in the same patient.

It is not until patients have attained about their fifteenth year, that they begin to relate subjective symptoms of a slight nature, still they will say they do not know that they have taken a cold. If their subjective symptoms are marked, it will be seen, on inspection, that their objective symptoms are equally as well marked; but it is very seldom that we have patients of this age, who relate marked subjective symptoms, and my experience warrants me in saying that fully 95 per cent of uncomplicated cases are curable.

About the twentieth year of age they begin to take ordinary precaution to prevent colds. Many times they do so more from obedience to their guardian's instructions, than because they have learned from experience that it is conducive to health. Yet very few of these patients are at all certain that they take cold on exposure; they know at times that they

have experienced chilly sensations up and down the back—a symptom very seldom mentioned before this age—but as soon as these sensations have passed away, they are forgotten. Their subjective symptoms are seldom painful. The blood vessels while plainly visible, are nearly straight in their course; the glands still retain their function of secreting muco-purulent matter, consequently there is an abundance of this secretion on the surface of the mucous membrane, all of which indicate that restoration is still possible. Almost every one of these patients whose ears, eyes, brain, stomach and lungs are not implicated, will, in time, recover their health, provided always, that they live in obedience to those hygienic laws which they have for many years been infringing upon, and at the same time place themselves under proper medical care. However, I am led to believe, from information received through my patients, that some of these cases do recover simply upon the observance of the laws of health; and I found upon investigation, that it was those only whose subjective symptoms were of a very slight nature that did recover.

From about the twenty-fifth year to the thirty-fifth, patients will freely admit that they have very frequently taken cold; but the uniformity with which every cold had for many years apparently entirely disappeared, without any attention or care on their part, and without its leaving any sensible bad effects, have led them to believe that the affection was a temporary inconvenience only.

This class of patients is very large, being about one third the total number treated. To them we are indebted for the prevalence of the exceedingly erroneous, but very generally entertained belief, that colds are of trifling consequence. This belief is held not only by the laity, but by a large portion of the medical profession of equal age. The expression made by this class of patients concerning their symptoms, plainly indicates their ignorance of the nature of colds, and of the complaint originating from them. After relating their symptoms, they will say: "I thought it was only a cold and would soon go away, as it has done many times before:" or "My physician said it was nothing but a cold in the head, which would pass away on taking some opening medicine;" or, "This cannot be a cold but it acts like one, at least it is not like the colds I have had before; my colds always go away, I know this from past experience," etc.

To this class of patients the physician *must*, if he regards his reputation, give an answer that is modified by numerous conditions, for the inflammation in their nasal cavities has been maintained long enough, to have produced a change that may prove to be permanent, even after the most skillful employment of hygienic and therapeutic measures. And even in the successfully treated cases, as it took many years for the congestion to produce this condition, time will be required for the reparative processes to return it so far toward the normal condition, that the patient will not be conscious of the presence of the disease.

Even this degree of restoration cannot be performed in a few weeks, or in a few months, simply because the changes in the mucous membrane have been too great for relief to be effected in so short a time.

After catarrhal patients have arrived at their fortieth year, they begin to take *more* than ordinary precaution against exposure to colds and at this age they voluntarily say, that they take cold even when they do not expose themselves in the least, and that they cannot avoid taking cold even when they do their utmost to prevent it.

With this class, and all those who are older, the inflammation is of a much more permanent character, therefore a promise of a complete cure ever being made, cannot be given.

The question may be asked why cannot these patients be cured by several years observance of appropriate hygienic and therapeutic measures? The answer is: the reparative powers of nature are not equal to the task of converting abnormal structure into normal structure. The blood-vessels, nerves, glands, etc., have become so changed, that it is not possible for them to be transformed to their former healthy condition by any kind of treatment, even should it be continued during the remainder of their life.

While this is true, it is possible to so treat this class of patients by a few appropriate applications each fall or spring, that they can be maintained in such good health, that they will experience but little annoy

ance from the complaint; nearly always their symptoms may be so much subdued that they will be unconscious of any affection in the head.

This is what I call *successful treatment* of this class of patients and in my opinion, *this is* the most that can be done for them. When this *is* done, they live almost entirely exempt from the exceedingly distressing symptoms that this disease entails, but *not exempt* from future liabilities to attacks of cold, which, if not immediately removed by appropriate therapeutic and hygienic measures, will again bring on even more than the former distressing sensations.

To recapitulate: Up to the tenth year, all patients will recover upon the observance of hygienic laws and with constitutional and local treatment of the simplest kind. Those from about twelve to twenty years of age will require more thorough treatment, but every uncomplicated case may be cured in time. A little less than a majority of those patients from about the twenty-fifth to the thirty-fifth year, may, by close attention to *all* the hygienic laws and a careful non-irritating medical treatment, be cured, while the majority of this class and all who are older, because of the permanency of the inflammation and because of complication with other important organs, can be benefited only, and even this beneficial treatment must be repeated at each change of the season during life.

THE COURSE OF COLDS.

In many respects a cold contracted by a healthy individual, is like a fire kindled in a wooden building. In the beginning, both the fire, from the match and the cold affecting the patient are trifles, as both could be controlled with but little exertion; a small quantity of water proving sufficient to extinguish the fire, and a little attention to terminate the cold. But if allowed to progress unchecked a bucketful of water will be necessary to accomplish what might have been done by a teaspoonful, and even if the bucketful is not dashed upon the flames, *at the right time*, the fire will have gained such headway as to result in the utter destruction of the house. So with a cold. If proper hygienic care, and, may be a very little medication, be promptly resorted to, at its inception, it can be readily controlled with but little inconvenience to the patient, while if neglected at this stage, its ill effects, probably, will steadily increase, until magnified into weeks, perhaps months of suffering, possibly ending in death.

The early history of every case shows, that chronic catarrhal inflammation of the superior portion of the respiratory tract, has its origin in cold in the head; also that the growth of the inflammation is almost imperceptible. The first cold causes so slight an inconvenience, as to be scarcely noticeable, while each succeeding attack is a little more severe, of longer continuance, and more frequent recurrence,

until the intervals between them are obliterated altogether, a fresh cold being contracted before the previous one has entirely disappeared. At this stage of the disease, the membrane in many cases has been so sensitive that the slightest draught of air, or even a fall of the barometer, will suffice to occasion an attack so severe as to involve the entire respiratory tract. While great deal of exposure was necessary to produce the earlier colds, as the disease grows in severity, each succeeding one is contracted more easily, until the patient is unable to ascribe a cause for the last attack, but fully realizes he is in the power of the disease.

THE EFFECT OF COLDS.

The immediate result of every cold, is enlargement of the blood vessels in the part affected. If the cold continues for several days, or is allowed to pass off *slowly*, the muscular coat, surrounding the blood vessels, will have lost some of its contractile power, and the vessels will remain somewhat enlarged. When the irritation, which caused the congestion, is removed, the vessels will be more liable, because of their atonic condition, to become affected on taking the next cold; and if the next cold is contracted before the blood vessels have entirely recovered from the dilating effect of the preceding cold, it will produce a congestion still greater than the former cold, causing a consequent still greater dilation of the vessels,

leaving them still more enlarged, weakened and relaxed, when this cold has passed off.

THE WAY THAT CHRONIC CATARRH IS CONTRACTED.

Thus, each successive cold prepares the sufferer to take cold more easily, and more severely. Every person who is a victim of a chronic catarrhal inflammation, has acquired it in this, *and no other way*. It is the only way in which the disease can originate.

Every person should constantly bear in mind that while a cold is slowly *wearing off*, the chronic catarrhal inflammation is slowly *wearing on*. This shows that it is very important that colds should be cured as quickly as possible. It also as plainly shows that it is of the utmost importance to prevent the removal of colds by the proper observance of hygienic rules.

Patients may not be able to entirely prevent the recurrence of colds in the head, but they can render successful treatment of the disease possible, by diminishing the frequency, consequently the severity of the attacks. *If such precaution is not taken*, the inflammation will extend to other portions of the respiratory tract, or to the auditory organs in defiance of all therapeutic measures that can be instituted.

The importance of attention to hygienic measures gains weight when it is known that with the young, the inflamed membrane, if protected from repeated attacks, will gradually regain its healthy condition.

In other words, if young patients could be so protected that they would not take another cold, they would slowly recover with but little if any medical aid.

In all cases, under the combined influence of hygienic and therapeutic measures, the mucous membrane generally loses its extreme susceptibility to take cold, and the prominent and urgent symptoms of the complaint gradually disappear.

In conclusion, I will say, that the successful treatment of every patient may be likened to the successful suspension of a chain; if any one of its links are broken the chain drops. It may be said that one of the links dependant upon the successful treatment of this disease, is called protection of the head, neck, body and extremities; another link, danger of exposure to draughts and night air; another, maintenance of the nasal and aural passages in a clean condition, if catarrhal secretion is profuse; another, abstinence from the use of tobacco and spirituous drinks, and so on, through the whole list of hygienic and sanative measures, and the last and the least link, called therapeutic measures. Now if any one of these links is broken—it makes but little difference which it is—success will not follow the treatment of such a patient.

DRIVE A COLD AWAY.

A cold should be *driven away* as soon as possible. It should not be allowed "to go off itself." It is while a cold is remaining, that it is preparing the mucous membrane to take on chronic inflammation. No one can become affected by chronic catarrhal inflammation, except by neglecting their colds, that is, by allowing them to "wear off." While the cold is "wearing off" the catarrhal disease is *wearing on*.

Many persons say, "I do not know how I got this catarrh. What is the cause of catarrh, is it the limestone dust, or the smoke?" In answer to the questions, do you take cold easily and frequently? They answer in the affirmative. In answer to the question, do you do anything for your cold? They will say, "no, I do not." If this person had driven off every cold, he would not have been a victim of catarrh. This disease cannot be contracted except through the result of carelessness; the victim having been for a long time indifferent to exposures that result in taking cold, and allowing each of his numerous colds to "wear off," he has thus compelled the chronic catarrh to "wear on."

Even when patients have been successfully treated

and have remained in good health for several years a slight cold, if allowed to slowly pass away, will prepare the mucous membrane to take another but more severe cold. A continuance of this neglect will eventuate in the return of the catarrhal inflammation, not only to its original severity, but to a far more severe form.

On the other hand, if each cold is checked as soon as possible, and whatever effects it has produced are quickly removed, there is less liability of the patient to take cold, and should a cold be taken, it will produce less severe results.

TREATMENT OF A COLD.

The first manifestations of a cold are usually observed in the evening. Even if these symptoms are slight, the patient should be instructed to regard them as very important. At this stage of the disease a ten-grain dose of quinine on going to bed and five grains taken the next morning, will usually be sufficient to cure the cold. A laxative pill should be prescribed if the bowels are in a constipated condition.

It may be required to repeat this one or two evenings and mornings, but in the majority of instances, especially if the patient is under treatment for his catarrhal complaint, one course is all that is required.

If the cold is so severe that it will require a third course, it will be well for the patient to bathe his feet at bed time, as described on a previous page. If the cold has been allowed to progress for four or

more days, then a different course of treatment will have to be instituted, which can only be indicated by the patient's condition at the time, as the complications will, under these circumstances, have become too numerous to be mentioned here.

CHAPTER II.

THE HEAD.

ITS PROTECTION DURING THE DAY.

The hat usually worn by men and boys during the day is a sufficient protection to the head against the inclemency of the weather. It is to be regretted that females, as a class, do not use the same precaution. The covering for their head, even in severe weather, is generally made to conform to fashion, in utter disregard of comfort and to the detriment of health.

A fashionable twenty-five dollar straw hat, perched on the upper and rear portion of the head of a female patient, whose ears are so sensitive as to require to be filled with cotton, whose mouth must be opened to allow respiration, whose nose requires the frequent application of a handkerchief, whose cough is the harbinger of her approach, and whose hollow cheeks and weak voice indicate that catarrhal disease is making rapid inroads upon her system, may be fashionable and stylish, but it certainly is not conducive to health. Persistence in following the demands of fashion in this particular, as in other matters of dress, is constantly affording an opportunity for the inception and progress of catarrhal disease. The fashionable hat, of the present day, which is many times made of

straw or other open material, is placed on the head in such a manner as to afford practically no protection to the head. Even were the hat made of close material, the cold wind has a fair sweep between the top of the head and the under portion of the hat.

No style of bonnet that I have seen during the past few years, can give the requisite protection on a blustery, cold day, to the ears and neck of a catarrhal patient.

In the winter of 1869, I saw a few ladies who had the good sense, as well as the good taste, to cover their heads with a black or brown velvet hood. This hood was quilted—not heavily—and was so formed as to cover the whole of the head, and back and sides of the neck. A band of brown fur bordered its front, sides and back, which, while not adding to the warmth, enhanced its beauty. This garment, afforded ample protection from the cold winds that usually prevail during our fall, winter and spring months.

A nubia may be so wrapped around the head, ears and neck as to protect the wearer nearly as well as the hood mentioned. It should be wrapped over the head and under the chin from one to three times, and several times around the neck, according to the severity of the weather; the hat usually worn, may then be placed over it. With this protection, if the remainder of the body is proportionately well clothed, a few hour's walk or ride in a sharp, frosty atmosphere, will not only be invigorating, but enjoyable.

A LIGHT CAP, OR A WIG TO PROTECT BALDNESS.

Patients who are bald or whose heads are but thinly protected by hair, are very liable to take cold even in warm weather. The scalp being uncovered, allows a rapid evaporation of the perspiration and consequent loss of heat, which frequently results in maintaining a continuous cold. To prevent this, they should wear a light cap or what is much better a wig. Either of which can be made to protect the head nearly as well as the natural hair.

NIGHT CAPS.

A covering or cap for the head, during the hours of sleep, is as essential for comfort and protection as is bedclothes for the body. That a strong, hearty individual may not require the protection of a night-cap is admitted; but it does not follow that a catarrhal patient, whose liability to take cold is the bane of life, should not protect his or her head in this way, any more than it follows that the sick should refuse to take medicine because those who are in good health, not only do not need it, but would be injured by it.

I have asked of many patients their reasons for not wearing a night-cap, as they claimed with much earnestness, to have been watchful of every source from which they might have taken cold, and to have used every precaution to prevent one. Some replied that they had not taken the matter into consideration; others, that they did not think it necessary, as the protection of their room was sufficient to prevent

their taking cold; while still others answered that they had been told that it would render them more liable to take cold on rising in the morning. The conclusion to be drawn from the last answer is, that protection should not be given to the weak, because excess of covering has a weakening effect upon the strong.

Every infant up to its eighteenth month, should in all seasons of the year, have its head protected by a light cap during the day, and a heavier one during the night; and every child, up to its tenth year, should wear a night-cap during the fall, winter and spring months. Nine-tenths of the earaches and attacks of croup and sore throat, grow out of the neglect of this very simple precaution. The dangers of an earache are very frequently underrated. "Of course the earache is a painful complaint, but children will outgrow it, they always do." Such expressions are made by those persons who do not know that four-fifths of our mutes have lost their hearing from earache during their infancy.

THE HAIR.

Nature's effort to make the hair a means of protection to the head, should not be thwarted by the use of the scissors. The hair should not be cut so short that it can scarcely be parted. This is an undue exposure of the head. Male patients very frequently commit this grave error. Females almost universally go to the other extreme. They wear their hair of

such length, that its massive coils become a burden and a frequent cause of severe headache. Those who do not possess hair enough of their own growing, to form a mass as large as a child's head, procure an additional amount to effect this increase. The practice of cutting the hair very short, or of wearing it very long, should be discontinued.

SHAMPOOING.

This is injurious to the scalp and hair. It removes every particle of oil from the head, causing the scalp to become dry and full of dandruff, the hair to lose its glossiness and natural color, generally giving it a faded and lighter appearance. But worse than this, because of the absence of the oil, the patient is more liable to take cold, on even a slight exposure of the head to a draught of cool air.

The application of oil to the head is very beneficial to the scalp and hair. It should be well rubbed on about once a week, oftener if the hair has a tendency to become dry. This practice will lessen the liability to colds after head-washings and hair-cuttings. Plain vaseline is the best oleaginous substance that can be applied to the head, it does not become rancid and has a cooling and healthful effect upon the scalp.

CHAPTER III.

WRAPPINGS FOR THE NECK.

FURS.

The fur neck-wraps worn by males, and the fur tippetts and capes worn by females are injurious. They fit so closely that they excite perspiration of the parts covered, while other parts of the body may be cold. Because of this extreme contrast, the wearer is almost certain to take cold in the throat and head. All close wrapping of these parts tends to increase the congestion of the mucous membrane by their excessive warmth. Light, loosely woven woolen wraps are preferable, and necessary during cold weather, for both male and female patients. If these do not keep the neck and upper portion of the chest warm enough, an additional woolen under-vest should be worn.

Some persons believe that the habit of protecting a diseased throat with any kind of wraps, will increase the tendency to take cold. This is a grave error. It is an undisputed fact that a healthy person can bear more exposure to inclement weather than a catarrhal patient could encounter with safety. But this is no excuse for neglecting to protect the weak throat. As well might the sick man refuse to take medicine

because his robust neighbor does not need it and would be injured by it.

SHIRT COLLARS.

Constriction of the neck should be avoided. I have frequently had patients who complained of a sense of dizziness on the inclination of the head toward either shoulder. With a respectable minority of them, it was ascertained that this unpleasantness was occasioned solely by a constriction of the neck, by a collar or shirt band. I have often observed the collar fit so closely, it was with difficulty a finger could be inserted between it and the neck. Of course a constriction of a less degree than this, will prevent a free circulation of the blood in the head, and will not only sustain but aggravate any congestion existing in the mucous membrane, or other tissues. Shirt collars and shirt bands should fit the neck so loosely that the four fingers of both hands can be inserted between them and the neck.

CHAPTER IV.

CLOTHING.

We cannot at all times control the temperature of the atmosphere surrounding us, but if we protect the body with the proper kind and amount of clothing, a low temperature, instead of being a detriment, will prove to be the most favorable condition for the promotion of mental as well as physical vigor. Patients enjoying good health, having no symptoms of disease, except those occasioned by their catarrhal affection, need not discontinue their daily occupations, even in, during the cold and damp seasons, they are exposed to sudden and great changes of temperature, but they should take great care that their bodies be well protected by clothing.

During our cold seasons, the air within our buildings is warmer than that without. It is impossible to avoid the change from the one to the other. In order that no injury may result from the sudden transition to the colder atmosphere, an additional supply of under-clothing should be put on before leaving the sleeping room, besides the usual number of outer garments worn, and in very cold weather an extra amount of over-clothing be added before going out of doors. It is astonishing how great a number of persons there are who neglect to take these precau-

tions. Many of these persons, if spoken to on the subject, will triumphantly say. "But I wear a large and thick chest protector!" Now, even the largest of these scanty garments covers the front portion only of the lungs, leaving the stomach, the back and sides of the body, as well as the upper and lower extremities, insufficiently clad.

- Deficient amount of clothing, colds, and chronic catarrh of the superior portion of the respiratory tract, bear the relation to each other of cause and effect. We could have no colds without some defect in the covering of the body; we could have no chronic nasal catarrh without a frequent repetition of colds; therefore the maintenance of the whole body in a warm, equable temperature is of the greatest importance, and no effort on the part of the patient that will effect this, should be neglected.

The fact that patients have acquired a susceptibility to take cold on the least exposure, plainly indicates that they should protect themselves by wearing additional clothing until such liability no longer exists. This advice is especially applicable to female patients, from the fact that while in an enfeebled condition, taking cold more easily because of their catarrhal complaint, they continue to follow the customs of their sex, in clothing themselves with a kind and form of dress that is imperfectly adapted to ward off the injurious effects of sudden changes of temperature. A lady, whose garments below the waist consist chiefly of loose skirts, in passing a corner of a

street on a blustery winter's day, is thoroughly chilled, the warmth from her body being almost instantly blown away from her skirts. It is barely possible that a strong woman can endure such exposure with impunity, but there exists no doubt, respecting a catarrhal patient being injured by it.

One of the most remarkable facts connected with dress in general, is the difference between the form and amount of clothing usually worn by women, and the amount and form worn by men, as compared with the strength or power of resistance in the sexes. If the lighter garments were placed on the body of the sex possessing the greater strength or power of resistance to external atmospheric influences, there would seem nothing remarkable about it; but these conditions are reversed, the weaker sex wearing not only the less clothing, but that form of it which affords the least protection.

Most women are conscious that they, as a class, do not possess the bodily strength to resist the effects of inclement weather that men do, yet notwithstanding this fact they clothe themselves with such light material, and which enwraps their bodies in so loose a manner, that they receive not more than one-third, or at most one-half the protection from their garments that men do from their's. I am certain that if the strongest man were to clothe himself in the same form and kind of garments that women do, he would soon suffer from some form of sickness originating from the exposure. Although every weak, illy-clad female

will readily admit this, yet it would require quite as great an effort to induce her to put on a sufficient amount of the right kind of clothing, as it would to persuade an old tobacco smoker or chewer to give up "the weed." The exclamations and protestations of my patients on this subject are so nearly alike, it would seem as if they had agreed, in convention, to repeat the same words. On being informed what amount of clothing they should put on, in addition to their usual number of garments, they say: "Oh, I can't wear two, three or four suits of under-clothing, it would kill me to carry such a load. I tell you I can't do it. I would do almost anything to get rid of this horrid cough and headache, but I can't wear that number of suits. Why, it would kill me outright! and I might as well die one way as the other! and besides how would I look? I'd have no shape; I'd be as broad as I'm long; I have not a single dress I could wear, every one of them would be too small!"

There are a few patients who cannot be persuaded to clothe themselves properly, and that they may continue under medical treatment, will make promises—which will be repeated as often as the subject is mentioned—to take the utmost care to avoid exposure to night air, draughts, etc. Other than an unfavorable result need not be expected from the treatment of such patients. In the majority of instances these promises are not kept, partly because of their inability to do so, being prevented by unforeseen circumstances, but many times on account of inattention,

a habit of some year's growth in these patients. However, such unreasonableness is not usual, the majority, although protesting when the subject is first mentioned, do put on the requisite number of suits, and having worn them a few weeks, express themselves as pleased with the additional warmth they afford. The beneficial effects are so plainly manifested, and they become convinced of the great importance of clothing themselves warmly, nor do they forget or neglect to put on the suits each succeeding fall, and wear them during the whole winter.

UNDER-CLOTHING.

Persons of both sexes and all ages, should wear in all seasons, the fine knit drawers and vest, usually found in furnishing stores. These garments are made of a material consisting of about one-third wool and two-thirds cotton. This proportion of cotton to wool is more pleasant to the wearer than either all cotton or all wool goods; the cotton garments producing a cold sensation at such times as the body is covered with perspiration, while the woollen garments do not absorb the moisture as completely as cotton ones.

When the weather becomes cold in the fall, a heavier suit should be put on over the thin stocking-knit suit, already on the body. When the mercury has fallen as low as 13° F., female patients should put on a third suit as heavy as the second; and if they are to go on a journey in the railroad cars, or are otherwise to be exposed for several hours, during the

coldest winter months, a fourth suit should be donned.

These supplemental suits should be made of pure wool, cut and sewed from blue, yellow, white or grey flannel. Many of my female patients, who were confident they could not endure this weight of extra clothing, were astonished to learn that these four suits weigh less, by nearly half, than a fashionable walking dress, and that the first three suits weigh less than the flannel skirts usually worn in cold weather, and also less than their felt and cotton skirts. Doubtless lady patients would feel less encumbered wearing heavy skirts suspended from the waist or shoulders, than in wearing the three suits, as their limbs would then be left freer, being less wrapped. But the wearing of the heavy skirts is too loose and open a mode of dress, and too, when put upon the scales, weigh double as much as the material in the suits, while affording less than half the protection.

BACK-PROTECTOR.

For several years I have advised those patients who experience cold chills on the back, to provide a back-protector. It may be made to cover the entire back from the waist to the back of the neck, passing as high as the clothing. It should be quilted about half an inch thick, for those who are thin in flesh. Both the size and the thickness will depend upon the liability of the patient to become slightly or severely chilled in the back. This protector may be re-

quired by some patients, even when they wear one or more suits of under-clothing.

CLOTHING FOR CHILDREN.

Children, especially girls, who have arrived at the age of ten years, are not as a usual thing, sufficiently well clad about the neck and upper portion of the chest or on their extremities. The continual exposure of the neck of young girls, rarely fails to generate a catarrhal complaint even in those of strong constitution, and it will certainly maintain, if not increase any inflammation existing in the head or throat. Parents may overlook the existence of a secretion from the nasal passages of their children, being conscious only of the discomfort experienced from enlarged tonsils. The fact that a child has enlarged tonsils, is an evidence that it has suffered, for several years, undue exposure from the want of proper kind of clothing, and is an indication that it should be more warmly clad, and should be placed under medical treatment at once.

Those children afflicted with enlarged tonsils, are liable to suffer a gradual decrease in their hearing, and be seriously affected by quinsy, for the reason that nearly every cold which attacks them makes itself felt in the throat, and is liable to result in the formation of an abscess in one or both tonsils, or, should they have an attack of diphtheria, scarlet fever, measles or any other disease, which in its inception or progress bears special relation to the throat, the

liability to serious complication in these parts is much increased.

CHANGING UNDER-CLOTHING.

Weak patients should change their under-clothing as seldom as is consistent with cleanliness; as every change robs the surface of a portion of the oil that is necessary to keep the skin soft and lubricated, and to make it a non-conductor of heat. When the skin is in an oily condition, as is found in the healthy individual, the liability to be affected by cold is much less than when it is rough and dry.

The oily state of the body is maintained by many thousands of sebaceous glands, that are located in the integument. When a patient is in a weakly condition from effects of a catarrhal disease, these glands do not supply this important non-conductor as abundantly as the skin requires it, and for this reason those patients who are thin in flesh and on the surface of whose body there is little or no oil secreted, should not change the knit suit, worn next the body, until it has become soiled, which may be in one, two, three or more weeks. I have noted, for many years, the effects of this frequent changing of the under-clothing and feel warranted in saying that the weaker the patient, the less frequently should these changes be made; and, too, the less frequently will it be necessary to do so, as the dry skin does not soil the clothing nearly so rapidly as does the healthy, oily skin.

If the suit worn next the body does not cause

undue perspiration during the night, it should be worn at this time as well as during the day.

The supplementary suits should not be permanently removed until the weather has become warm in the spring. The last supplementary suit—leaving the thin knit suit next the body—may usually be discarded about the 15th of June. Warm, even hot days may occur prior to this time, when the patient may be occasioned some discomfort from the presence of the extra suits. But it is far better to bear patiently this temporary unpleasantness, than to risk the danger of days' or perhaps weeks' sickness, the result of a too early removal of the under-clothing. It would be well to remove some of the outer clothes during the hot hours of the day; this would prevent the exhaustion occasioned by the heat.

It should be borne in mind that the thin suit, worn next to the skin during the hottest days, is not put on for the purpose of keeping the body warm, as, in this weather, it would be warm enough without any clothing, but to prevent the sudden loss of heat by the rapid evaporation of the perspiration. A severe cold may be contracted in the hottest days in August, by exposing the perspiring body to a cool or even a pleasant draught of air. The temperature of the surface of the body may in this way be suddenly lowered fully ten degrees, which is very likely to result in a cold.

CHAPTER V.

THE FEET

STOCKINGS.

If the wearing of woolen stockings causes the feet to perspire, in which condition they are more liable to become cold, a pair of thin cotton stockings should be worn under them. It will be well for patients suffering from cold feet, whether they are damp or not, to wear, during cold weather, two pairs of stockings; one of cotton—next to the feet—and one of woolen; neither of which pairs need be very thick.

Cold and damp feet are almost certain to induce and aggravate a congestion of the mucous membrane of the nasal passages, throat, ears or lungs. The recovery of a patient, who has even a slight catarrhal affection, will be retarded if the lower extremities are not maintained in a warm and dry condition.

BOOTS, SHOES AND SLIPPERS.

Thin and light boots, or shoes low in the ankles, should not be worn in cold and damp weather. Heavy, loose-fitting boots, with double uppers and soles, are proper coverings for the feet in such weather.

India-rubber over-shoes should be worn during wet

or damp weather only, and should be removed from the feet whenever the wearer enters the house.

Slippers should not be worn by either sex during cold or even cool weather. One of the ways in which a cold is mysteriously (?) taken, is the exchanging of a pair of warm boots or shoes for a pair of low slippers. Those who do this have forgotten that they have not only uncovered their feet and ankles, but that naturally they are placed in the coldest stratum of air in the room. If they will take the precaution to draw over the stockings usually worn, a pair of heavy woolen socks, the chances for taking a cold from such an exposure will be greatly reduced.

ELASTIC GARTERS.

A majority of females maintain the tops of their stockings in position by means of elastic garters. Girding the limbs in this way is liable to produce cold feet, because of impeding the circulation, the veins being so much compressed by the elastic bands that the blood cannot leave the limbs as readily as it should do, while the heart forces the blood to them through the arteries, whose walls are firm enough to resist the pressure of the garters. Almost every patient will claim that her garters are not tight, yet will acknowledge that when they are removed at night, the creases below the knee, caused by the constriction, are deep enough to bury half the thickness of a finger.

In order to maintain the hose in their proper place

without the aid of garters, they should be pulled on over the knit drawers, and held in their proper place by elastic straps having a brass clasp or loop at each end, so formed as to securely retain the hold on the top of the stockings. It will require two of these straps for each stocking; one on the inner and one on the outer side of each limb. As the stockings worn are usually long enough to reach above the knees, more of the limbs will be covered in this way, than when they are held in place by the strangulating elastic, or non-elastic garters.

FOOT BATHS.

A good remedy for cold or damp feet is to bathe them at bed-time. For many years I have recommended that when my patients take this bath they should, after undressing, sit upon the side of the bed with the feet immersed in a sufficient quantity of water, heated to blood heat, to cover the ankles; at the same time a blanket should envelope the body, and be allowed to fall around the bath tub.

Sitting upon the bed while taking this bath has two advantages: First, the body being in a nearly erect position will receive more of the warm and moist air from the foot tub. Second, the patient will be enabled to get under the bed-clothes without the loss of the warmed air enclosed around the limbs and body by the blanket: two adjuncts necessary to a successful foot bath.

After the feet have been in the warm water about

three minutes, they should be raised out of the tub, and a pint of boiling water poured into the bath; the feet should then be immersed about three minutes longer, when a second pint of hot water should be added in the same manner, and at intervals of three minutes, a third, fourth or more pints be added until the water in the bath tub is as hot as the patient can bear it. After the feet have been in the water about fifteen minutes, they should be dried and well rubbed with a coarse towel, and an inunction of vaseline applied with considerable friction; lastly, covered with a pair of cotton stockings well warmed.

Plunging the feet into cool water, immediately after rising in the morning, has frequently the effect of keeping them warm during the day. Young persons only should try this experiment.

INUNCTION TO THE FEET.

For years I have recommended the application of inunctions to the feet. Such applications are usually attended with greater benefit if made right after a warm foot bath, but may be applied with good results in connection with friction alone. These applications assist in preventing the feet from becoming cold.

If there is a fetid odor arising from the feet, salicylic acid grs. v., and hydrate of chloral grs. x., ad ʒj of vaseline, will after a few bathings and annointings, correct this condition, except in rare instances.

CHAPTER VI.

COLDS INCURRED FROM DRAUGHTS, NIGHT AIR AND
BY PETTY ACTS OF COMMISSION AND OMISSION.

Most persons know from experience that while they are in an over-heated condition, that it is unwise to expose the head, neck and shoulders, or any limited portion of the body, to a current of cold air. Many refuse to bear patiently the temporary discomfort of an over-heating, and to obtain relief, take a seat at an open window, thereby incurring a cold, which, in the most trifling cases, will last double as many days as the discomfort from the over-heating would have lasted half hours, and in many instances a cold contracted in such a manner, proves to be so serious in results as to affect the health of the victim during the remainder of their life, even if it does not shorten life itself.

Exposure to night air should be avoided if possible. If compelled to be out at such time, more clothing should be placed around the neck and chest than is worn during the day. It would be well for females who must so expose themselves, during cold or damp weather, to draw on over their shoes, a pair of thick woollen stockings, long enough to reach to the knees.

Sitting for three or four hours in a hot theatre or lecture-room, where the air is impure, succeeded by a

ride in the street car or an open carriage ten or twelve squares—equal to an exposure of half an hour—is sure to be followed by an increase of all catarrhal symptoms, unless precautions are taken to ward off a cold, by placing extra protection on the head, around the neck and on the lower extremities. In addition it would be well to protect the hands and wrists in cold weather, the former by woolen mitts the latter by woolen wristlets or pulse warmers, as they are popularly called.

In the care one should take of themselves, there are many petty acts of commission and omission, the result of forgetfulness, or more frequently of carelessness, which almost surely originates a cold. The most conspicuous of which are, sitting on a stone door-step in a cool evening to a late hour in the night; sitting up late after the fire in the room has gone out, then going to bed with cold feet; getting out of bed with bare feet and in night-dress to wait on a child sleeping in a cold room; making the fire on a cold morning in an undressed condition; standing in an open doorway during cold or damp weather with the head and shoulders insufficiently protected, to speak a few words to a friend who is too slow in taking his or her departure; stopping to speak to a friend on the sidewalk, long enough for the feet to become cold, and to experience a chilly sensation between the shoulders; making a call on a friend who receives company in a cold parlor, or in one in which the fire is started on your entrance; receiv-

ing lessons or giving lessons on a piano in a cold room; seeing a friend out to the gate and standing there until warned of the impropriety of the act by a sneeze, or "cold streaks" going up and down the back. For the protection of those young folks who cannot forego the pleasures of the "parting at the gate," I would advise their guardian to have a portable gate constructed and placed in a room adjoining the parlor.

CHAPTER VII.

THE SLEEPING ROOM.

ITS TEMPERATURE.

Dr. Horace Dobell, of London, in his excellent work entitled "Winter Coughs," makes remarks on the temperature of bed-rooms, that are so appropriate that I will quote them. He says: "But before leaving the subject of sudden changes of temperature, I must not forget to speak of sleeping-rooms. It is quite astonishing what follies are committed with regard to the temperature of sleeping-rooms. On what possible grounds could people justify the sudden transition from the hot sitting room to a wretched, cold bed-room, which may not have had a fire in it for weeks or months, it is impossible to say, but it is quite certain that the absurd neglect of properly warming bed-rooms, is a fruitful source of all forms of catarrh. We cannot too much impress this upon patients."

Those patients who do not become warm quickly after going to bed, during cool or damp weather, should have the bed-clothes warmed by a hot smoothing iron, or a warming bed-pan, before they retire for the night. Warming the bed may be necessary, even if there has been a fire in the sleeping-room all day.

If a patient is subject to profuse night sweats, the dampened bed-clothes should on each morning, be removed from the bed, and fresh, well dried cotton clothes (linen sheets and pillow cases should be eschewed), supplied in their stead. If the perspiration has been but slight, the bed-sheets alone may be all that require removal, and these may be so slightly dampened, that if hung before a grate fire they will be sufficiently dried for the next night's use.

ITS VENTILATION.

Good ventilation in every room of a house, is essential to comfort as well as conducive to health, and of course the bed-rooms of those whose respiratory organs are affected do not form an exception. The greatest care should be taken to maintain the air in this apartment in a pure condition.

There can be no doubt that much of the benefit derived from an out-door or camp life, is due to the supply of good, fresh air. Although deprived of a soft bed, the healthy person as well as the invalid feels refreshed and invigorated after a few nights' sleep under a tent, the tendency to a recurrence of colds is lessened, and they are reduced in number and severity. This has been demonstrated time and again, during the years in which overland trips to California were frequent, and during the late war.

Many patients have informed me that they have experienced an occluded condition of the nasal passages, before rising from their bed in the morning.

In nearly every case of the patients so complaining, it was found that the cause was owing to either insufficient protection to the head, during the night, or to a vitiated state of the air in the bed-room, in some instances to both causes.

The air in a sleeping-room ought to be as pure in the morning, as it is on going to bed at night. In order to maintain this purity, the lower sash of the window ought to be raised, and the upper sash lowered; the former raised one-fourth the distance that the latter is lowered. The extent to which the sashes should be raised and lowered, will depend on the degree of the out-door temperature.

If the air from an open window blows directly on the bed, a curtain should be so interposed as to prevent the draught from striking the sleeper, or the bed moved out of the draught.

CHAPTER VIII.

DIET AND STIMULANTS.

A good nourishing diet, consisting of food known to the patient to be especially easy of digestion, is advised. A patient having been, for a long time affected, and in whom the disease is complicated with dyspepsia, has been taught by experience that his stomach is a law unto itself, which law cannot be infringed upon with impunity.

Dr. Beard's remarks on the kind of food and fluid that should be avoided in "hay fever," (which is a complication of nasal catarrh and a sequence of it), are very appropriate. He says: "Those who are specially susceptible to particular substances, those for example, who cannot digest pork or sausages or pastry, or who are made nervous or sleepless by coffee or alcoholic liquors, or whom certain fruits injure by their mechanical action on the pharynx or through the digestive organs, need no advice to abstain from those things, while the symptoms are on them." As a general rule, plain food only, such as is known to add strength to the body, should be taken, all else should be avoided. We should "eat to live," not "live to eat."

"Charcoal crackers" made of flour, sugar, pulverized charcoal etc. frequently have a beneficial

effect on the digestion of those patients who suffer from that form of dyspepsia, in which the food in its process of digestion evolves gases, and the fluid becomes acrid. From two to five of these crackers, each of which is about two inches square, should be eaten immediately after each meal. They are not unpleasant to the taste.

Children afflicted with catarrh, having a pale complexion, and with mucous membrane in a relaxed condition, should eat plenty of animal food, candies, cake and pastry usually disagreeing with them by causing the contents of the stomach to become sour.

No stimulants should be taken unless prescribed by a physician.

CHAPTER IX.

TOBACCO; ITS MENTAL AND PHYSICAL EFFECTS.

1st. Tobacco produces an exhilarating effect on those individuals only who have acquired the tobacco habit.

The early effects of tobacco are usually those of a nauseant and depressant to a marked degree. At this stage there is no exhilarating effect produced, such as would induce the consumer to continue its use. In a few weeks, both the narcotic and exhilarating effects begin to be experienced to that degree that its nauseant effects can be tolerated. Secondary effects of tobacco begin with this toleration and manifest themselves by mental phenomena and physical symptoms. By the latter is meant, the congestion and sequent enlargement of the blood vessels, and relaxation of all the tissues with which the tobacco comes in contact, which effect is the result of the local action of tobacco on the sympathetic nerves of the mucous membrane of the pharyngeal, pharyngo-nasal cavities and the larynx. The mental phenomena, which is now being considered, is experienced after a period of abstinence, longer in the beginner and shorter in the old consumer. It is manifested by symptoms of unrest, dissatisfaction, forgetfulness, impatience, disquietude, irritability and other evidences of an unhappy condition of the mind. The victim being un-

pleasantly aware that he lacks something, something that will bring him again toward his usual mental quietude. The relief from this mental unrest is called exhilaration by him, for much the same reason that the habitual drinker of whisky calls his morning dram, a tonic. While both the tobacco and the whisky may bring their victims toward their usual condition, it is hardly necessary to say that the normal condition is not reached by either of them, for if it were so, evidently the discontinuation of either habit would not be accompanied by such mental and nervous disquietude.

I presume no one will say that the boy suffering from the nausea occasioned by too rapidly smoking his first cigar, enjoys its effects; nor will he say that his 50th or 100th cigar yields him any enjoyment, beyond the pleasure afforded by the knowledge, that he has at last become so far habituated to its effects, that he can perform the act that raises him all the way to manhood, without becoming sick at the stomach. As yet the sympathetic nerves have not become sufficiently impressed to experience the exhilarating effect of the narcotic, showing that it is those only, whose nervous system has become perverted by its effects, that experience this exhilaration. Perversion and exhilaration always maintain due relation to each other; the greater the perversion, the greater the exhilaration.

2nd. The pleasurable sensation arising from the use of tobacco is not experienced except during the time it is depressing the system.

This proposition is not in accordance with views expressed by either its opponents or friends, but it is abundantly proven by the fact that a full meal, or spirituous drinks, or exposure to out-door air, or recovery from sickness, increases the desire for tobacco, by increasing the ability to tolerate its effects.

My own experience in using tobacco—during a period of fifteen years—was, that I, many times, smoked until I lost all desire and taste for food. I frequently would have abstained from eating, had I not known, from past experience, that after the meal I could again enjoy my pipe. I ate, not because of hunger, but because the food relieved me of a semi-conscious exhaustion, not such as would result from an empty stomach, as I had not fasted, but a nervous exhaustion; relieved of this exhaustion by food, I could again resume my pipe and again enjoy its depressing effects.

There are other conditions of the system that show as plainly as what has already been cited, that tobacco is a depressor of the nervous energies. These are nausea, hunger, sickness and excessive grief. These conditions annul desire for the narcotic by rendering the system too weak to tolerate its depressing effects. In other words, agencies that raise the tone of the system, so that tobacco has the opportunity, as it were, to lower it, increases the tobacco appetite, by increas-

ing its ability to tolerate its depressing effects, and agencies that lower the physical energy so low that they leave no room for tobacco to lower it without causing nausea, decrease its toleration and desire for it at the same time.

It is thus seen that the system must be in a more or less vigorous condition to allow the use of tobacco, plainly proving that it is a depressor of the system, and it as plainly follows that it is while the depressing process is going on, that the pleasurable or exhilarating sensation is experienced.

3rd. It is quite questionable whether the exhilaration following the use of tobacco, causes the consumer of it to enjoy life to a greater degree, than do those who do not use it.

The vehement opponents of the use of tobacco denounce it as a poison, and not only an originator of many functional disorders, such as neuralgia, anæsthesia, hyperæsthesia, diminished physical energy, etc., but some of the most dreaded of organic diseases, such as amaurosis, consumption, cancer, insanity, etc., they base their argument on the continual presence of functional disturbances. On the other hand, its friends consider it a harmless luxury, one that soothes irritated nerves, clears and sharpens the exhausted intellect, fills an indefinable vacancy, produces a satisfied and calm condition of the mind, dispels loneliness, relieves weariness and induces repose. They assume that its ill effects are always transitory and that no organic lesions are ever observable. On this they

base their defense. While I am certain that tobacco assists in the maintenance of many functional disturbances, I do not agree with its opponents that it usually acts as a poison to those who are habituated to its effects, or that it can of itself cause cancer, amaurosis, consumption or insanity, nor do I agree with its friends that it is a harmless luxury. It does not soothe irritated nerves, until its secondary effects have first irritated them. It would, of course, be absurd to say that it soothes unirritated nerves. It cannot clear and sharpen the exhausted intellect, until its secondary effects have first be-clouded, dulled and exhausted the intellect. It cannot fill an indefinable vacancy until its secondary effects have first caused this vacancy. It cannot induce a calm and satisfied condition of the mind, until its secondary effects have first produced a restless and unsatisfied condition of the mind. It cannot dispel loneliness until its secondary effects have first occasioned loneliness. It cannot relieve weariness until its secondary effects have first caused weariness, nor can it induce repose until its secondary effects have caused sleeplessness. Does the novice who has just smoked his first cigar, say that it soothes his nerves, clears and sharpens his intellect, satisfies and calms his mind, or induces repose? Even if his nerves were irritated, his intellect dull and exhausted, his mind restless, his eye sleepless, would this cigar give him the least relief? I presume my readers will not require answers to these questions.

If tobacco produces no effect that will induce the novice to continue its use, if it must have an habitual consumer on whom to produce its exhilaration by annulling its own secondary effects; if it must depress the system to relieve nerves that it has irritated, calm and satisfy a mind that it has made restless and unsatisfied, drive away a loneliness that its previous use has occasioned, is not this proof positive that this narcotic relieves its victims from nothing, save from its own effects? It also as plainly proves that until the victim is suffering from the secondary effects of tobacco, it produces no exhilaration, it has no relieving virtue. Does the victim smoke or chew, because he is restless mentally or physically? Tobacco caused the restlessness, the relief from which he calls exhilaration. Does he smoke or chew because his throat is dry? Tobacco occasioned the dryness, and so with every unpleasant sensation from which he asks tobacco to relieve him.

As tobacco must first depress the system, irritate the nerves, be-cloud the intellect and make the mind restless before it produces its exhilarating effects, what evidence have we beyond the assertion of the victim, whose nerves have been perverted, that this exhilaration causes greater enjoyment of life than he would have experienced if he had not been habituated to its use? Is the consumer of the narcotic, who is fully under its influence, in a fit condition mentally, to judge whether or not he enjoys life better in consequence of its use? If his sensibilities are pervert-

ed, is not his judgment, with respect to these sensibilities also perverted? Proof, conclusive, of the judgment's being perverted, is found in the fact that ninety-nine hundredths of the victims are unaware of the hold that this agent has upon them, until they undertake to discontinue its use, then, to their utter surprise, they find that they are so firmly bound, mentally and physically, that it is almost impossible to gain the mastery over the habit.

My personal experience warrants me in making the assertion, that every tobacco consumer is the victim of a deception. They imagine that exhilaration follows the use of tobacco, when it is only the sensation of relief from the tobacco's secondary effects; but to attempt to make old smokers or chewers admit that their pleasurable feelings are derived from the relief of these secondary effects, is a pure waste of time, as they are totally unconscious of any secondary effects. They will readily acknowledge, that if curtailed of their usual supply, they soon experience a multitude of very disagreeable symptoms, indeed these are so unbearable as to make life a burden, yet there are few who will admit that these sensations are the result of the use of tobacco. Now, to get rid of this unhappy condition, they betake themselves to their nerve perverting solace; thus, while they are dispelling their unpleasant feelings they are experiencing pleasurable sensations, proving correct what I have said, namely, that to the relief of the secondary effects, is due their exhilaration.

In some respects they resemble a Chinese Lady of rank whose feet, since her childhood, have been cramped by diminutive shoes. As soon as her shoes are removed she is in pain, and is entirely unable to walk, but so soon as she puts on her small shoes, her pain is abated and she can again move about with her usual activity.

Probably the best evidence of a devotee's unconscienceousness of being held in subjugation, is the replies to friends who are expostulating with him concerning the use of tobacco. One of them will say, with a benighted smile on his countenance, "did you but know the pleasure this affords, you also would use it. I tell you I would rather give up the tenth of this life, than discontinue it." Proving that he believes that every person that does not use tobacco is as unhappy as he is when deprived of it; also proving that he does not perceive that the relief following the additional use of tobacco does not equal the passive, everyday sensations of the healthy, non-consumer.

I have been in the condition that this victim now is, and have made just such expressions, and now know the reason why he is so egregiously deceived. He speaks as though there was *no difference* between his nervous system and a non-consumers nervous system. He has forgotten the effects of the tobacco when he first commenced its use, he has forgotten how the taste and sensation it produced compelled him to be *surprised* that others.

should use it, even doubting their veracity when they affirmed that they enjoyed it, and the *only* reason that he continued its use at the time, was either because he was in company where it was used, and chewed or smoked because they chewed or smoked, or because he thought it seemed manly to do so. This is the time that he should have compared his nervous systems, with the nervous system of his expostulating friend, for both systems were then in about the same condition, but to make a comparison at a time when one system is in its natural condition and the other in a condition that compelles the victim to chew or smoke to keep himself *compus mentus*, only demonstrates the peculiar logic or philosophy that comes from viewing things through "tobacco spectacles."

With equal correctness could the victim of six and eight glasses of whisky a day, say to a young lady "Mary Jane could you realize the enjoyment of the effect of these glasses of whisky, you also would use it, I would not exchange a tenth interest in life for my social glass." This victim would be a shaking wreck without his four fingers of whisky and the tobacco victim would be a trembling, lost, forgetful, cross fellow, unless he gets his quid, pipe or cigar, yet both will, as I have said, deny having any secondary symptoms from these enslaving agents, and both are deceived into the believing that they enjoy life to a much greater degree in consequence of their use.

Almost every one of the uninitiated, seeing the earnest and candid manner in which assertions concerning the pleasant effects of tobacco are made, will believe that it is really a pleasure giving substance. That they are very greatly mistaken may be proven by their taking some of the weed in their mouth, or by smoking it until its effects are appreciated. They will not call the deathly sickness, which will soon be experienced, pleasant. If they do not feel like invoking a curse on the one recommending its use to them, it is because they are too weak to do so.

4th. The congestion occasioned by the action of tobacco on the mucous membrane of the superior portion of the respiratory tract, resembles in many respects, the congestion resulting from the effects of a cold and like effects of a cold, some of its effects are transitory and some are permanent.

It is not necessary to detail all the transitory effects of tobacco. Suffice it to say that they consist in part of the nausea of the novice ; after toleration has been established, the nervous trembling of the hands, the headache, the heartburn, the hiccough, the perverted taste, the dizziness, the dyspepsia, the constipation, the palpitation of the heart, the dry throat and nostrils, the sore tongue, cheeks and lips, offensive breath, etc. The permanent effects consist of the local relaxation and congestion of the mucous membrane of the superior portion of the respiratory tract, and of

the results following and originating from this relaxation and congestion *per se*.

The question may be asked, how can a relaxation and congestion, arising from the effects of tobacco, be distinguished from a similar condition arising from a cold? It is rather a difficult matter to distinguish between the effects of the moderate use of tobacco and the effects of a cold, but it is not difficult to select, judging by the degree of congestion, the immoderate consumer of this narcotic.

The female of ordinarily good health who has had one continuous cold from her girlhood to her fortieth year, and the consumer of tobacco of ordinarily good health, who, from his fifteenth to his fiftieth year has used this narcotic moderately, have equally diseased nasal and pharyngo-nasal cavities, that is if both are of the same temperament. If the female has black hair and the tobacco victim light hair, his nasal cavities will be in a much greater inflamed condition, than her's, and *vice versa*. If a light-haired boy, begins, at the age of fifteen to use tobacco inordinately and continues to use it excessively, the resulting congestion will be so severe as to ultimately involve other important organs; the brain, stomach, heart and the lungs are almost certainly implicated to such an extent that life will be shortened many years, and, after death, mortification will begin first in the nasal cavities.

There is another evidence of the permanent effect of tobacco not unfrequently observed, and in this

phase too, it resembles the effects of a cold. I allude to the effect on the mind. The catarrhal female patient of thirty, and the tobacco victim of forty, are both equally less fitted for the performance of mental exertion than they would have been, had their respiratory tracts not been maintained for this length of time in a diseased condition. Nor, so far as is known to me, can the mucous lining of either of these tracts be restored, by any course of hygienic measures, or any method of local or constitutional treatment, to its normal condition. This being the case, it effectually disposes of the assumption of the friends of tobacco, that its effects are transitory and that no organic lesions follow its use.

If the victim of the tobacco habit is an inordinate user of this narcotic, and is also in a weak condition, physically, the result of a catarrhal inflammation of the respiratory tract, his eyesight, his hearing and the functions of his brain will be thereby impaired. Catarrhal patients, not uncommonly, find it difficult, if not impossible to continue even for a comparatively short period of time, any train of thought requiring unusual mental exertion; their mind will involuntarily revert to irrelevant subjects, but with the tobacco victim, who is also a catarrhal patient, this wavering condition of the mind is so frequent and so persistent, that he soon becomes so wearied in his efforts to keep his mind on his subject, that he gives up in despair and betakes himself to his narcotic solace, allowing his mind to follow its dreamy, objectless

course. Strange as it may appear to one not subject to the influence of tobacco, this individual calls this acquired condition of his mental being, happiness, and the agent that begets this state of mind, a luxury.

5th. The local effect of tobacco on the mucous membrane of the nose, throat and ears, is as predisposing to catarrhal disease, as is inefficient and insufficient clothing in the case of females.

I do not propose, while attempting to prove the correctness of the above proposition, to demonstrate at this time, that 'tis due to an improper kind and amount of clothing, in the case of females, that catarrhal inflammation is induced, but to show that the local effect of tobacco is as efficient in preparing the mucous membrane to take on catarrhal disease, as is deficient clothing in females in exposing them to colds, so that contracted catarrhal inflammation, as a rule, is originated from colds alone. Female patients clothe themselves in such an insufficient manner, that it is not at all difficult to account for their susceptibility to take cold on even slight exposure. But with males, the same excuse cannot be offered as it is well known, that as a class, they are so much more warmly clad, they are not liable to be injured from exposure to ordinary weather, therefore, they should be much more free from catarrhal disease than females, but, as will shortly be shown, males are more frequently sufferers from catarrhal inflammation of the nose, throat and ears than are

females, although they are less well protected by clothing.

TABLE.—NUMBER OF PATIENTS TREATED FROM 1866 TO 1881, INCLUSIVE.

AGES.	TOTAL.		TOBACCO USED BY MALES.	
	Males.	Females.	Used.	Not Used.
4 mo. to 1 year	17	18		
1 year to 3 years	28	27		
3 years to 5 "	38	35		
5 " 8 "	51	44		
8 " 10 "	58	65		
10 " 15 "	88	172	28	60
15 " 20 "	123	268	59	64
20 " 30 "	369	649	268	101
30 " 40 "	740	307	621	119
40 " 50 "	248	54	210	38
50 " 60 "	96	8	73	23
60 " 70 "	38	2	28	10
70 " 80 "	5	1	2	3
80 " 90 "	2	0	0	2
	1896	1650	1289	420
	3546		1709	

From 1866 to 1881 inclusive, I treated 3,546 patients for catarrhal disease of the nose, throat and ears. It will be seen that it is at the time of life that patients are mostly under the influence of tobacco and are experiencing the injuries from insufficient clothing, that they are the greatest sufferers from catarrhal inflammation. Up to the 10th. year, both sexes being about equally exposed and protected, are equally affected, there being 187 boys and 189 girls.

From the 10th. to the 15th. year, the boys, although more exposed to inclement weather than they had been heretofore, are more warmly clad than for-

merly. They are now wearing woolen underclothes, woolen neck wraps, boots, overcoats, warm caps or hats, etc., while the girls of equal age, although much the weaker sex, and nearly as much exposed to colds as they were at an earlier age, are yet more thinly clad than they were formerly, especially during the season of social gatherings, lectures, operas and theatres. Between these ages, 88 boys and 172 girls were treated, 2 of the latter to 1 of the former. Although the boys could have been but a very few years "boosting" themselves into manhood by using tobacco, yet in this short time, this narcotic has produced one-fourth of the number of cases treated.

From the 15th to the 30th year, the influences of tobacco and of deficient clothing are still more marked. Tobacco, by this time, has produced a greater degree of relaxation and congestion in the mucous membrane, thus preparing it to be the more easily affected by slight changes of the weather. The females of this period of life are still more thinly clad, although more liable to the interruption of the physiological functions of their organism from effects of cold, their being 492 males to 719 females. Of the 492 male patients 165 did not use tobacco, colds alone being the cause of their catarrhal complaint, leaving 327 persons who used tobacco, and who would not have been so severely affected with colds as to have been patients, had it not been for the effect of this narcotic.

From the 30th to the 40th year, there is a very remarkable change in the relative proportion of the

sexes affected by catarrhal diseases. Instead of the females being greatly in the majority, as they have been from the tenth year, their minority is even a greater contrast, there being 740 males to 307 females. I account for this remarkable transfer of the majority to the male column in this way; the females have by this time changed their condition in life, so they are not so much exposed to sudden changes of temperature, having been married, and besides, they have learned, from past experience, that they must clothe themselves more warmly, than was their custom in earlier life, while many of those worst affected, have died before reaching this age.

With the male portion of this list, tobacco wielded a still greater health injuring influence: for of the 740 patients treated, 621 were addicted to the tobacco habit. The number who owed their catarrh to colds alone was 119, or about one-sixth of the whole number.

In reviewing the relative proportion of patients who used tobacco, as compared with those who did not use it, it will be seen, that the bad effects increase during the entire time it is used. From the 10th to the 15th year, only a little more than one-fourth of the whole number treated were consumers of tobacco; from the 15th to the 20th year, the proportion increased to a little over one-half; from the 20th to the 30th year, the proportion grew to two-thirds; while from the 30th to the 40th year, more than six-sevenths of the whole number required medical treatment be-

cause of the injurious effects of this narcotic. Not only was this class made patients for the time being, but the mucous membrane of the respiratory tracts was so seriously affected, as to require from three to ten years for the mucous membrane, in the younger patients, to be restored to so nearly its normal condition that they would be unconscious of the existence of nasal passages, or of a throat. These figures plainly show that tobacco so *prepares* the mucous membrane, as to cause it to become affected on the slightest exposure. It shows also, that what insufficient clothing does for females, in exposing them to the effects of sudden and great changes of temperature, tobacco does for its victims in preparing the mucous membrane to take cold, both tobacco and deficient clothing tending to induce catarrhal inflammation. Consequently it is as entirely useless to treat a patient who continues to use tobacco, as it is to treat a female who persists in refusing to protect herself with a sufficient amount of the proper kind of clothing.

6th. The local effect of tobacco on the mucous membrane, causes a more permanent relaxation and congestion than any known agent.

My attention was first directed to the relaxing and congesting influence of tobacco in 1862. I was at that time, treating a patient who was a great sufferer from nasal and aural catarrh, and who smoked and chewed excessively. He frequently expressed himself as satisfied that he was injuring himself by this

narcotic, but the habit had such a hold on him that he made no effort to discontinue it, nor did I, at the time, think the tobacco was injuring him to the extent that I now know that it was. He was under my care for about three months, and died. I made a very careful post-mortem examination of the nasal and pharyngo-nasal cavities, and found the mucous membrane in an excessively congested condition. It was cedematous, and of a black-brown color showing that mortification had begun before death. At the same time I made two other post-mortem examinations. In one, the mucous membrane of the nasal passages was nearly of the normal color. In the other the nasal passages were black-red, but not of so deep a dark color as were those of my patient. On the same day I chanced to meet the physician who had treated the last patient. I made remarks to him concerning the peculiarities revealed by the examination. He stated that his patient was also a habitual smoker. I then learned from the physician, and attendant on the patient, whose nasal passages were found in a comparatively normal condition, that he had never been addicted to the use of tobacco in any form. This determined me to make an investigation as to the relationship existing between the smoking and chewing of tobacco and the dark appearance of the nasal mucous membrane.

For the purpose of investigating this, with other allied subjects, I made, during the succeeding three years, not less than twenty other post-mortem examination of a similar nature, and, judging from the

state of the mucous membrane of the nasal passages, I successfully selected, in every instance, each one of the bodies, who during life had been habitual smokers, the mucous membrane of such, always being of a much darker color than that of the non-smoker.

During the past sixteen years, my opportunities for making post-mortem examinations have been exceedingly limited, probably about twenty-five being made during the time. But in each instance until the past winter, (1878) when I examined two heads, one that of a boy, whose nasal passages were darker red than is usually seen during life; the other that of an adult negro, who had used tobacco inordinately, and whose nasal passages were black-brown. The boy did not use it, evidently showing that the effect of tobacco is to produce so permanent a congestion, that it amounts to a paresis of the parts. I will now ask, is it true that the effects of tobacco are transitory? Is it true that it leaves no organic lesion?

7th. As tobacco depresses the system while it is producing its pleasurable sensation, and as it prepares the mucous membrane (by causing a more permanent, relaxation and congestion than any known agent) to take on catarrhal inflammation from even slight exposures to cold, it should require no further evidence to show that its use ought to be discontinued by every catarrhal patient. The only question remaining to be

answered is, shall its use be discontinued at once, or shall the victim "taper off," in his endeavor to become master of himself?

A peculiarity of the effect of tobacco upon the system, is that the victim is not aware of the hold it has on him. As he throws away the cigar or spits out the quid, he will not for a moment acknowledge that he is not master of his desire and appetite. It seems but a trivial matter to him to break the habit nor does he know what hold it has on him until he makes the attempt to discontinue its use. Then to his surprise, what he thought could be done with but little self-denial, demands his utmost resolution, nor is the desire overcome without at least a six months' ordeal, the first three weeks of which is called a "twenty days' horror," by many of the victims.

I will give the following dialogue and partial history of a patient's tribulations in endeavoring to overcome the tobacco habit. Although the questions and answers are nearly a repetition of one another, yet they contain some points of interest and some of instruction.

QUESTION.—Capt. W. W. A. Doctor, how about this tobacco; can't I get over this throat trouble unless I stop both chewing and smoking?

ANSWER.—I stated at the time you made your first visit, that if you discontinued the use of tobacco, your throat would improve to a considerable degree without any other than constitutional treatment, while with its continued use, all treatment would fail but to

merely allay prominent symptoms, and that these effects would last but a short time after the discontinuance of the local application.

All right, sir : I will stop it. It will be no trouble to do that.

He came back at the appointed time—it being the fourth day during which he had not used tobacco—was treated, and had taken a few steps toward the door, when he returned and said : “Did you say that I ought to stop the use of tobacco entirely?”—emphasizing the last word.

To an affirmative reply he said, “All right, sir ; I guess I will make it.”

A blind man could have seen from his questions, that this habit, which he thought could so readily be broken, had a much stronger hold on him than he had realized. In about one week after he said, with a slight hesiteney, but with a serious countenance : “Did I understand you to say that it was positively required that I should not use any tobacco at all?”

He received an affirmative answer, and replied “All right, sir ; I guess I can get along without it ; I have made up my mind to make the trial, but ” (with a smile on his face) “it is a fearful trial on one’s resolution, sir. About half the time I do not know what I am about ; I feel as if I wanted something ; I cannot read the papers, I cannot stay at my office, and cannot be satisfied at home, because I have my business to attend to. In short I feel miserable.”

About a week afterward he said “My throat feels

pretty well now. Don't you think I can take a small chew, just a little nibble? I do not think it would do me any harm. If I cannot do that, can't I smoke a little at home? You may be sure that my wife will not let me smoke too much."

The reply was, that as his throat had been so well during the last few days, if he continued to abstain, all the disagreeable symptoms (they were frequent spasms of the glottis at night after he had retired) would soon ease, also that he would soon loose the intense desire for tobacco.

He replied "All right, I want to get this throat well." Ten days afterward, having finished the local treatments of his throat I remarked to him that he had missed several appointments, to which he replied "Yes sir, I know it; I thought it would be an easy matter to stop the use of tobacco. The fact is, I did not then know whether I could or could not stop, until I began to make the trial. I then learned that the habit was a much stronger one than I had anticipated, but I did not touch it in any form until last Monday. On that day I was offered a good cigar—a good cigar to a hungry man like me, is a very great temptation I can tell you—I smoked a part of it, my throat becoming a little dry from it, but in the morning it was all right again. I expected to have come here at the usual time, but was offered another good cigar, and the temptation was too great to be resisted, and I smoked the whole of it. My throat did not feel dry immediately, but during the after-

noon my clerk offered me a chew which I took. After chewing the tobacco I felt a slight sticking pain in the left side of my throat; which grew rapidly more severe for a time, but next day I scarcely felt it, I thought, however, that I would stay away until all pain from the effects of the tobacco had left me, before I called to see you again."

He was conscious of great improvement while not using the tobacco. He was willing to agree to any arrangement for the gradual discontinuance of its use, but the total abstinence plan he did not wish to continue. As he thought chewing did not injure his throat as much as smoking, he proposed to take a small chew, not oftener than from three to five times a day. He thought this would be a great improvement on his old habit, as he was accustomed to both chew and smoke. The result of the trial was not very satisfactory. He frequently took a chew in violation of his promise as he said "before he thought of it."

His next plan, was to separate his tobacco into small parcels containing a very small chew. Each parcel was to be taken at a stated time—such time being marked on the wrapper. This was productive of better results, at least for six or seven weeks.

At the end of this period, he contracted a cold, which seriously affected him. While in this condition it was proposed that he discontinue the use of tobacco for three weeks, and if there was a continual

improvement, it was hoped the desire for tobacco would decrease, and he could be induced to a further discontinuance for at least four or five weeks, but he could not be persuaded to abstain only two weeks longer.

During this time he was compelled to stay at home. At the end of this period his improvement was very satisfactory. Fortunately he had gained such control over his desire for tobacco as to enable him to abstain for a longer period. In four months time his desire for tobacco was so much lessened, and the beneficial effects so manifest, having gained eighteen pounds during the time, that he determined never to use it again. He kept his promise, made in 1868, until 1876; when he recommenced using tobacco. He had entirely recovered from his throat trouble, but in thirteen months time, all his former symptoms returned. He was treated a few times receiving relief only. In the Spring of 1878 he was taken seriously ill, which resulted in death.

Various articles have been named and tried as substitutes for tobacco, to enable the victim to overcome the habit, but the most successful method, is its discontinuation at once, and suffer for a few weeks, the effect of the abrupt abstinence. The peculiar nervous sensation following the total abstinence is somewhat ameliorated by taking $\frac{1}{4}$ of a grain of sulph. quinine, in powder, on the tongue, then chewing a small piece of fat yellow pine. Neither the pine nor

the quinine are antidotes, the latter is a tonic to the nerves, the former affords employment for the jaws.

Many patients are thus enabled to break off the habit without a great deal of inconvenience; others abstain for a time, then recommence as soon as their catarrhal affection has ceased to be a cause of anxiety.

CHAPTER X.

PHYSICAL EXERCISE.

The neglect of physical exercise, may many times assist in maintaining a general debility of the system, and a torpid condition of the bowels. To many patients, out-door exercise, a life in the air and sunlight, is not only beneficial, but absolutely essential to health. It should not, however, be taken before breakfast, nor at night. Most lady patients leading a quiet life, will find that half an hour's walk after breakfast, will greatly aid digestion. Horseback riding is a healthful exercise, and may be indulged in at any time during the day, providing the weather is dry.

A course of gymnastic exercises will greatly benefit all who lead a sedentary or quiet in-door life. I have known patients, who were not able to leave their room during the entire winter, to be greatly benefited by performing such prescribed exercises, as were suited to their physical condition, with dumb-bells, pullies, rubber bands, swing, etc. Such recreation will frequently induce a desire to sleep when other means fail.

It is a well known fact that exercise develops those muscles of the body that are brought into

action. This is observed in the youth's arm, after a few weeks exercise with the dumb-bells or Indian-club, and in the blacksmith's arm. Not only does exercise develope these few museles, but every organ of the body and their function is strengthened *pari passu*.

While it is important that the kind of physical exercises should be of such of a nature that they are not unpleasant or disagreeable, yet there are conditions of the mind, brought on by the diseased condition of the head, that may incline the patient to think that *every* kind of exercise is unpleasant; of course in such a case, the patient's judgement cannot be taken as a guide, and he *must* follow the advice of his friends. The reason that fishing, ball-playing, hunting, daneing and alike exercises are so beneficial, both to body and mind of the catarrhal patient, when not carried to exceess, is that the excitement charms him into forgetfulness, and his muscles are made to perform two and three times the usual amount of labor, at the same time his lungs, heart, stomach, bowcls etc. are made to take part in this strength giving exercise.

I have known patients, the tendency of whose catarrhal complaint was to make them gloomy and down-hearted, give way to their ever present tired and weary condition, resisting every advice to the taking of exercise, allowing themselves to drift slowly to the grave, in the face of every treatment, both local and constitutional. In cases of this kind sys-

tematic massage is very useful, as it removes the wearied sensation that prevades the whole body, and to a certain extent takes the place of bodily exercise.

Calisthenic exercises, or exercises known by this name, as practiced in our common schools, are gentle movements of the body, the arms principally, but they are of little value to the pupil, save that they instruct them in the manner of holding the body in a proper or graceful position. Systematic movements, made with *energy*, using various kinds of implements, such as parallel bars, trapeze, horizontal ladders and bars, dumb-bells, Indian clubs, wooden-horses etc., all under the control of a competent teacher is a most useful means of developing, in a very short time, all the animal vigor of the body. But to derive the greatest benefit from such a course, it should be taken regularly for several consecutive months.

I am greatly in favor of well conducted gymnasiums for *both* sexes, but institutions of this kind that allowing the young of either sex to undertake the most difficult and dangerous acts, in absence of a qualified teacher, should be shunned by all classes. A gymnasium that allows boys, or "young lords" to "show off," and in so doing maim or kill themselves, as has been done in this city, is but little short of a nuisance.

There is much more need of gymnasiums for females than for males, as the latter sex have more frequent opportunities for physical exercise than the

former. The sedentary life that tyrant fashion drives girls from the 10th to the 17th year to lead, may be, to a great extent, counteracted by a several months course in a gymnasium, followed up year after year.

These exercises may be taken at any time of the day, except before breakfast, or during the first hour after dinner.

CHAPTER XL.

DISPOSITION OF THE MIND.

Catarrhal inflammation of the nasal passages invariably commences in the immediate neighborhood of the superior turbinated processes. From this locality it extends, by continuity of structure, and by vascular and nervous connections, to other parts adjacent and then in succession to remoter parts; that is, the middle ear does not become diseased until, after the mucous membrane lining the Eustachian tube has become affected by extension of the inflammation from the nasal cavities, nor in the larynx until, it has affected the pharyngo-nasal cavity and the fauces. In like manner it extends to the sphenoidal and ethmoidal cavities, and to the frontal sinus.

These cavities and sinuses are situated immediately under that portion of the brain which performs the mental functions. They are separated from it by a very thin plate of bone, but are intimately connected with it by both blood-vessels and nerves. As the blood-vessels in chronic cases have, for many years, been congested to such a degree that they are twenty, thirty or forty times their normal diameter, the nerves accompanying these vessels, as well as other adjacent nerves, having a controlling influence on the whole economy, must be affected in some degree, if

not in the same proportion. It would naturally be expected that they, in turn, would effect changes in the functions of the organs over which they are ultimately distributed.

That this is true is attested by the symptoms of every person who suffers from chronic catarrh, and prominent among these is the change in disposition. It is a very frequent occurrence for such patients to exhibit great irritability, discontent and dissatisfaction, without apparent cause, or at least without a cause that is equivalent to the degree of change in the mind.

It is not naturally considered the province of the physician to accord advice, concerning the necessity of controlling the disposition of a patient's mind, or to give warning of the injury that may result from allowing ill-temper to have full sway ; but experience has frequently proven to me the necessity of such control, as the recovery of those patients who do not curb their ill-nature is retarded.

It is well known that a chronic disease, affecting any one of the extremities, or various organs of the trunk, has the effect of producing an irritability of the disposition. How much more likely then will a long continued inflammation, situated immediately under the anterior portion of the brain, produce a change in the functions of that organ. It does not follow that the pain of a man's corns will be increased by indulging his ill-temper, yet, when irritability of the disposition does assist in maintaining a hyper-

æmic condition of the inflamed parts, then most certainly, such indulgence should be curbed.

There are many persons whose ill-temper results solely from the distress occasioned by the catarrhal condition of their nasal passages, and to whom the injunction, "do not return an angry reply," is needed; especially is this advice necessary when their anger is so violent as to cause their face—usually pale—to be reddened by passion.

The integument of the face is reddened by the afflux and retention of blood in the capillaries; what then must be the condition of the congested capillaries of the mucous membrane lining the nasal, ethmoidal and sphenoidal cavities, as also of the blood-vessels within the cranium. Certainly this forced injection of the blood-vessels, if repeated often, must have an injurious effect on their walls, which are already much reduced in thickness, and weakened in their power to contract, and it must render them more liable to remain in a congested condition.

Many patients find it almost impossible to return a kind, or even civil reply to any inquiry, especially if made by a kind and forbearing friend. It would seem, the greater the forbearance on the part of the friend, the less they fear to offend his feelings, and the less restraint they exercise on their ill-temper; while to the comparative stranger, they will return an answer in every way proper and kind, showing evidently that they *can* control their temper if they desire to do so. One patient informed me that he pre-

ferred boarding away from home, although his relatives were kind to him, because of the annoyance he experienced on being interrogated by his mother concerning his health. Many patients are conscious of the existence of this great fault, and acknowledge that they ought to control their temper. This they most certainly should do, as it is a flagrant violation of the laws of affection, and an abuse of the feelings of those who have a right to expect a reply in return, commensurate with the many kind offices performed and the almost agonizing anxiety on their account, both day and night.

The more often a patient allows his temper to get the better of him, the more liable is he to be irritable, and if this indulgence is continued, a condition of mind will be engendered, so resembling insanity, that his relatives or friends will believe that he is really becoming insane. On the other hand, a kind reply, even to a needless question, most certainly tends to develop a pleasant disposition, besides being a great satisfaction to indulgent friends. One kind answer predisposes to an other kind answer, and prevents irritation of the disposition.

That the indulgence of anger does increase intracranial congestion, is evidenced by an increase of headache, increased tinnitus aurium, by vertigo and nausea, and other symptoms indicating excessive blood pressure within the cranium upon patients becoming angry.

The following cases are illustrations of this important fact:

Mr. H. of Kansas, informs me that his son had, what seemed to be, a slight attack of cerebro-spinal meningitis; was in bed only about one week. On recovery he was observed to stagger as if under the influence of spirituous drink. After he had been out of bed about two weeks he was engaged in playing with two yoked calves. As he could not make the calves do his bidding, he became angry, and called very loudly to his sister for assistance, who was in the house, about two hundred yards distant; as she did not make her appearance, he called still louder, and grew exceedingly angry, objects around him became dim, and he fell to the ground. On the recovery of his consciousness, he walked, as well as he could, to the house. These facts were learned from him some months after their occurrence. His mother came to the conclusion, as she saw him walk into the door in a more than usual staggering gait, that he had exhausted himself with the calves. She also remembers that he was very pale and appeared much frightened. On her asking him if he had been hurt by the calves, he made no reply, but went to bed and slept for a few hours. On waking up, he then spoke and seemed to be much pleased at the recovery of his speech. He then related to them how greatly he was frightened at his inability to speak upon recovery of his consciousness, but which had not been noticed by them, as he went immediately to bed. In

about six weeks afterward he again became very angry, which *immediately* had the effect of bringing on a disability to pronounce certain words. A few week after the complete recovery from this attack, he related his experience with the calves.

This happened several years ago. Even at this time he is very careful to avoid becoming angry or excited, as this condition of mind always effects his speech to a more or less extent.

This gentleman has a daughter who is completely deaf from cerebro-spinal meningitis. It is noticable that at those times that she is excited by fear, but especially by anger, that her eyes, which have been affected with a slight strabismus since her recovery, become much more crossed, and on these occasions her toes seem to stick into the floor, so much so that while walking across the room, she is very liable to stumble.

Probably one of the most constant subjective symptoms of chronic catarrh of the nasal passages, is the *change* in the disposition of the mind, which, in my opinion, is the result of irritation arising from long continued inflammation located immediately under the anterior portion of the brain.

I cannot better demonstrate this *change*, than by adding the histories of other patients who have been under my care for several years for the treatment of their mental and physical condition. Of course these symptoms manifested themselves only during the first few months of treatment.

August 187— A. A girl of thirteen years of age. During the last three years she cries when brought into the parlor. If asked by any one of the family, whether she feels badly or has a head-ache, she bursts into tears, but makes no reply. This mental condition has prevented her from receiving instruction at school or at her home. She is small for her age; has always had trouble to keep her nose clean; uses from two to five handkerchiefs every day since she has been large enough to use a handkerchief; has paralysis agitans of the muscles of the left side of the neck and left arm; has complained of a tiredness of the right arm and hand; tonsils very much enlarged, which have been twice excised; permanent teeth much decayed; the auricle of each ear projects forward, a phenomenon that indicates that her ears have been affected to a considerable extent while quite young. A stream of muco-purulent secretion is seen flowing down from the naso-pharynx.

In the spring of 187—I treated a lad a little older than this girl, who exhibited symptoms very similar to those above mentioned.

In the summer of 187—I treated a gentleman—a lawyer by profession—who, when he first visited me, shed tears every time that he commenced relating his symptoms. He was exceedingly ashamed of his conduct, but could not help it. This condition of mind and a persistent sleeplessness were his most prominent subjective symptoms.

A gloomy condition of the mind should also be re-

sisted. The patient should try to occupy his mind on some subject that is pleasant, and one that will take his thoughts off from the contemplation of his ailment. If the treatment of the local inflammation progresses toward a favorable termination, these peculiarities of the mind will gradually disappear.

CHAPTER XII.

MISCELLANEOUS.

STOP YOUR COUGHING.

“Stop your coughing! You cough fully twice as often as you need to do.” If patients will resist the tendency to cough and endure the sensation that seems to cause it, they will soon notice they may reduce the number of coughs from one-half to two-thirds, and then when they do cough, they will be enabled to raise sufficient secretion from the throat to slightly relieve it of the sensation that is partly the cause of the cough.

I am satisfied, from many year's observation, that the sensation that first induces the cough, arises from irritative inflammation located behind the soft palate, fully three and a half inches above the place of sensation in the throat.

It is evident that even if a throat is healthy and an inflammation, three and a half inches above it, causes a persistent and frequent cough, this cough could not last many weeks without occasioning so much irritation in the throat, that it also would become diseased, and it is also evident that the sensation in the larynx, caused by a distant irritation, cannot be relieved by frequent coughing, nor will the

cough relieve the irritation located up behind the soft palate, as it has not the least effect upon the irritated spot. This shows the great importance of controlling, to suppression if possible, a non-relieving cough. There is far more probability of an anodyne application relieving a little finger that is benumbed by a blow on the elbow, than that a cough would remove the sensation in the throat that is caused by an irritation due to inflammation or to a lodgement of a secretion behind the soft palate.

I have known patients cough, on an average, ten times every five minutes for two hours in the morning, making two hundred and forty spasmodic effects to relieve the throat of tickling sensations. Now, this is tiresome to a weak individual and the relief of one-half of their efforts may be sufficient to prevent the throat from becoming inflamed and thus prevents the lungs from being implicated in the disease. If a healthy individual will cough two hundred and forty times in two hours every morning—not to take into account the very frequent coughing through the day that is done by every such patient—he will, in a few weeks have his throat so highly inflamed that he may require medical aid for its relief.

A good method to help one to control the cough, is to mark each cough on a card, preserve this card and endeavor to decrease the number of coughs each day. I have known patients to decrease these efforts 75 per cent. One patient coughed one thousand and eighty-five times on the first day's tallying, on the

next day she coughed four hundred and fifty times, on the next, only two hundred and twenty times. This may seem to some to be trifling work, but the result is *always* beneficial to the cough and to the strength of the patient. Some patients have tried to control the cough without marking each effort down, but they are not certain as to the degree of decrease or increase of the cough; there is no doubt but that a patient will be more certain of success in controlling his cough if he marks every effort on a piece of paper; under these circumstances the mental effort will greatly assist in resisting the sensation of tickling in the throat.

EARTH SPITTOONS.

The secretions from the air passages of every catarrhal patient are decomposed before they leave the mucous membrane. If they are deposited in a common spittoon or vessel, the decomposing process will not only continue but take place far more rapidly, especially if the room is kept warm. Besides being exceedingly disagreeable to the eyes of every occupant of the room, it is very injurious to the patient, who requires pure air, and to others in the household. All this may be obviated by an *earth spittoon*, it will not only absorb the secretions but immediately prevents their further decomposition. A vessel containing five pounds of earth will absorb out of sight all the secretion that a patient is able to expectorate in twenty four hours. It should then be emptied and refilled with fresh earth, which is very easily done.

SANATIVE MEASURES.

CHAPTER XIII.

CLEANSING THE NASAL PASSAGES BY INHALING
LIQUIDS FROM THE HAND.

There are many young persons afflicted with nasal catarrh of so mild a form, that they do not require the aid of a physician, who could, by timely cleansing their nasal passages, not only relieve themselves of the annoying secretion, but prevent the disease from increasing even if they did not check it altogether; but those who are afflicted to such a degree of severity that they require medical assistance, should—if the secretion is very profuse—be directed to wash out their nasal passages. During the intervals, between treatments made by the physician, the mucous membrane will most likely become coated. Should this coating be allowed to remain, it will shortly acquire an acrid property, which greatly aggravates the inflammation.

While it is essential to speedy recovery that the nasal passages be maintained in a clean condition, it is equally essential that the means employed for this purpose should not cause any irritation. A sensation of relief should be experienced immediately succeeding the cleansing process.

The simplest mode of cleansing is by the suction

of water into the nostrils, from the palm of the hand or from a small sponge held in the hand. This is sufficiently effective for all patients, where the secretions have not become locked in the nasal cavities, by reason of their hardness and size.

It would seem as if it would require but little instruction to enable the patient to successfully perform this operation, aside from the directions given with regard to the ingredients, the strength and temperature of the solution to be used; but it will be seen from the description of the method recommended, that the patient might not adopt it without special directions.

During inspiration through the nostrils, the course of the greatest volume of the stream of air, is not parallel with the bridge of the nose, nor does it pass along the floor of the nasal passages, but nearly between these two boundaries, generally at an angle of about 45° with the plane of the forehead. If we keep in mind that the stream of inhaled liquid is to follow in the same direction that the air does, and the water, being heavier than the air, will deviate from this course by gravitation, we have only to place the head in certain positions, to be enabled to wash or bathe the entire surface of these triangular cavities.

POSITIONS OF THE HEAD DURING THE INHALATIONS.

To wash the anterior third of the nasal cavities, the head of the patient should be inclined forward, to

such an extent that the plane of the forehead will be in a horizontal position (Fig. 1.). In this position

Fig. 1.



First position of the head, in which the anterior third of each nasal passage is washed by suction of water and air from the palm of the hand, or from a sponge held in the hand.

the stream from the hand will pass upward and forward at an of 45° with the horizon, and gravitation will cause a part of the solution to fall on the anterior portion of the cavities. After the suction of one or two handfuls of liquid the patient should blow the nose to dislodge all liquid and loosened secretion. Continued and hard blowing of the nose should be avoided, as one is liable to force mucus up the Eustachian tubes, as well as to aggravated the congestion of the inflamed mucous membrane. To wash the middle third of the nasal passages, the head should be inclined forward, until the forehead is placed at an angle of 45° with the horizon (Fig. 2.). Then the greater part of the stream of air and liquid

will enter the nasal cavities in a vertical direction, striking the upper portions, and gravitation will divert a part of the fluid forward, and a part backward of the vertical line.

Fig. 2.



Second position of the head, in which the middle third of each nasal passage is washed by suction of water and air from the palm of the hand, or from a sponge held in the hand.

To wash the remaining third part of the nasal passages, the forehead should be held in a vertical position (Fig. 3); then the streams of air and fluid will enter the cavities at an angle of 45° with the horizon, passing upward and backward. Gravitation, instead of causing it to fall forward, as it did in the first position, will cause a part of the solution to pass along the floor of the nose, thus washing the floor as well as the posterior third of the passages. Again all liquid and loosened secretion should be blown out.

With the head in this position, it is possible for the patient to inhale the solution with sufficient force to

strike the posterior wall of the pharyngo-nasal cavity, thus washing the surface of this cavity, with that of the pharynx and upper surface of the soft palate.

Fig. 3.



Third position of the head, in which the posterior third of each nasal passages is washed by suction of water from the hand or from a sponge in the hand. In this position the upper surface of the soft palate and the posterior wall of the pharyngo-nasal cavity may also be cleansed.

The patient can then remove tenaceous mucus adhering to these surfaces, which could not be removed by any other effort he could make, because this mucus is situated too high to be moved by any movement of the tongue or the soft palate, or by the force of the air in the hawking and rasping the throat.

In the first and second positions the liquid will

pass out of the nostrils, in the last position it will pass out through the mouth.

Patients in their endeavor to remove this adhering mucus, usually have severe "coughing spells" in the morning, as they term their efforts to clear the throat; but these efforts do not rid the mucous surface of the offending matter. The removal is accomplished, only when they have continued coughing long enough to induce gagging, which efforts produce a qualmish condition of the stomach, and a copious flow of free mucus. This fresh flow of mucus accomplishes the removal of the adhering mass. The attempt to remove this tenaceous secretion by the old gargling method, must always fail, for the reason the liquid cannot be thrown sufficiently high to strike the surface to which the mucus adheres, it only washes the tonsils, the anterior surface of the soft palate, the base of the tongue and a small unimportant portion of the fauces.

Patients who cannot clear their throat with the first course of inhalation from the hand or sponge and whose cough is continued so long by the presence of the lodged secretion, that it produces a nauseous sensation, should lie down in bed a few minutes, as the recumbent position will usually relieve this disagreeable feature. By the time one is relieved of the nauseated sensation, the solution inhaled will have softened the adhering mass, and with another course of inhalation the throat will be thoroughly cleansed.

During the last sixteen years I have recommended this method of treatment to my patients, who have used it with decidedly beneficial results. A patient living in Belleville Ill., addressed me a letter in June, 1878, in which he makes a good suggestion concerning the use of a sponge from which to inhale the solution, instead of from the palm of the hand. I quote by his permission from this letter. "Concerning the inhaling from the hand, with the head erect, I find it somewhat difficult to perform. Only one or two years ago I found a way by which this inhaling process can be performed more easily, allowing any positions desired, even on ones back. For this purpose I use nothing but an open sponge (the size of a small orange), filled with the fluid to be inhaled. I place this to the nostrils and inhale through it as from the hand. By compressing the sponge, the amount of liquid and air contained therein, can easily be regulated, thus allowing just the quantity of water to pass into the nostrils that experience has proved to be the most efficacious with the least amount of discomfort. As the liquid is inhaled from the sponge, the latter does not become soiled."

Since the receipt of this letter I have advised my patients to use the sponge in the manner described. Many may find it a more agreeable manner of treatment than inhaling from the hand, and continue to use it.

After the surfaces have been made clean, the washings must be discontinued, even though they produce a pleasing sensation. The absorption of the water causes the membrane to become swollen, in which

condition it is more susceptible to the injurious influence of cold weather; but if at *any* time the liquid produces a painful sensation lasting longer than one or two seconds, its use should be discontinued, even if the passages are not entirely cleansed. In such cases, a few partial washings, aided by local applications made by the physician, will decrease the heat of these parts, which is the cause of the hardening of the secretion, then the cleansing can be completed without producing the least disagreeable effect.

When thick tenaceous masses accumulate in the pharyngo-nasal or nasal cavities, three handfuls of the solution should be inhaled immediately on getting out of bed in the morning, holding the head in the three positions named. This amount will soften the mass a little, and by the time the toilet is completed, the patient will probably be able to entirely cleanse the passages by the application of three handfuls more. During the early treatment of a bad case, three or four courses may be required during the forenoon.

The number of times these that inhaling operations may be repeated is a matter of very great importance. We must always keep in mind the fact, that the nasal passages were not made to receive any kind of foreign liquid, and that the lining membrane absorbs to its injury, more or less of every fluid that comes in contact with it. The medicated solution is a benefit, because it acts as a solvent to vitiated se-

cretion, which, if allowed to remain, are far more injurious to the mucous membrane than the effect of the absorption of the liquid itself. It follows, therefore, that just so soon as the decomposed secretion is removed, the inhalation if continued, will do harm. In reality, washing these cavities is but a choice between two evils, the use of the inhalation being the lesser while the secretion remains on the mucous surface, but just so soon as the surface is made clean, then the inhalation will be the greater evil, as it will be the only evil remaining.

If it be found, upon trial, that inhalations in this manner, has not sufficient force to remove the hardened secretions, recourse must be had to the Catheter Nasal Douche (an instrument described hereafter), but when the secretion can again be removed by the inhalations from the hand or the sponge, the use of the douche should be discontinued.

THE SOLUTION USED.

The solution to be inhaled is made by dissolving about one teaspoonful of common salt in a pint of water, a little warmer than blood-heat. Patients will soon learn from experience, whether this is or is not the proper strength and temperature. Water either without salt or with too much in it, produces more or less pain, but with the right quantity (which varies slightly with different individuals), it produces

a pleasant, bland sensation. Cold water occasions a disagreeable as well as a very injurious effect.

If the secretions are offensive, twenty grains of boracic acid or two grains of carbolic acid (pure white crystals) should be added to the pint of the solution.

Patients should be instructed to avoid using promiscuous prescriptions voluntarily given to them by friends; by all means they should avoid the use of the permanganate and chlorate of potassa, as these salts are very injurious, although they are very popular with both the profession and the laity.

CHAPTER XIV.

REMOVAL OF HARDENED SECRETION FROM THE NASAL
PASSAGES.

When the muco-purulent secretion has become so hardened, and adhere so tenaciously to the mucous membrane of the superior portion of the nasal and pharyngo-nasal cavities, that its removal cannot be effected, by force of water inhaled from the palm of the hand or from the sponge, such other means must be resorted to as possess the requisite force to do so.

My experience has taught me that there are three qualifications that the means, employed to accomplish this result, must possess. The first qualification is: The means shall be effective without, at the same time, causing irritation. All physicians having had even a few years' experience in treating this most tenacious disease, will understand how necessary it is to carefully observe this precaution. So important a matter is it to avoid irritation, that it should not only measure the value of the means for cleansing, but for making application of remedies, as well as for deciding the value of medicaments themselves. Experience has abundantly proven that an increase of irritation and a decrease of inflammation do not go on together in the same inflamed membrane.

The second qualification is: That direct application be made to every portion of the diseased surface within the nasal, pharyngeal and pharyngo-nasal cavities. Although the correctness of this theory and its importance is obvious, and generally conceded, yet, strange as it may appear, this very important indication is never fulfilled by the apparatuses commonly employed by general practitioners and by many specialists.

The third qualification is: That it should have force enough to free the diseased surfaces of all the morbid secretions. Cases are numerous where the complete removal of the secretion is all that is required in the way of local treatment; the presence alone, of the secretion occasion the distress, which, if removed by mild measures, is almost immediately allayed.

In discussing the value of the means employed to accomplish these important results, I will only mention such as have been recommended by high authority during the last few years.

The Posterior Nares Syringe has been recommended and is employed for this purpose, but even when patients have learned to handle this instrument carefully, it frequently causes so much irritation, by its application behind the soft palate, that they soon refuse to use it. Then, too, the throat of those patients who have catarrh in the nasal cavities, is exceedingly sensitive to all such appliances, and because of the elevation and compression of the velum palati to the

posterior wall of the pharynx, occasioned by this sensitiveness, the curved extremity of the instrument is pressed—in the endeavor to pass it up behind the velum—against this wall with so much force that it soon originates a pharyngitis, even had none existed before its application, not only maintaining, but increasing any inflammation existing in this region.

Not unfrequently in cases of severe pharyngitis, after using this instrument, expectoration, streaked with small quantities of blood, may continue for fifteen or twenty minutes. It is preposterous therefore to expect a naso-pharyngitis can be eradicated by such treatment. It will require at least two weeks careful treatment to overcome the injury done by one such application.

The apparatus, to which both the professional and non-professional now frequently have recourse, as a means of cleansing, is the Weber Nasal Douche. I will discuss its merits and demerits at some length, noting, at the same time, whether it possesses the three qualifications I have before mentioned.

Dr. Thudichum, in his paper, published in the *London Lancet*, 1864, says: "All difficulties are removed at one stroke by the discovery of Prof. Weber of Halle (Germany). When one side of the nasal cavity is entirely filled through one nostril being filled with fluid by hydrostatic pressure, while the patient is breathing through the mouth, the soft palate completely closes the choanæ, and does not permit fluid to pass into the pharynx, while the fluid passes into the other cavity, mostly around and over the posterior edges of

the septum narium, in some persons also the frontal sinuses, and escapes from the other open nostril, *after having touched every part of the first half of the cavity of the nose,** and a great part certainly of the lower and median canal of the second half. By means of the application of this principle to the treatment of diseases of the nose it is possible easily and frequently to wash the nasal cavity, to disinfect and deodorize it, and to apply to its surface a great number of beneficial medicinal substances, so as to prevent acute affections from extending, and to incline them toward a speedy recovery, to stop hæmorrhage, allay irritations and subdue in a remarkable manner chronic affections of the Schneiderian membrane, so as to re-establish a perfectly healthy surface and normal condition of the organ of smell."

Such promises, should be the expressions of an individual possessed of a positive knowledge that they would be fulfilled. The high authority of the periodical in which the article appeared; the apparent philosophical style in which it was written, seemingly the assertions of one who had seen the method *do* all that was claimed for it, raised high the hopes of both practitioner and patient, and gave a guarantee of a cure.

It seems to me remarkable that so large a number of contributors to our journals, and nearly every author in his work, devoted either wholly or partially to diseases of the nasal cavities, should have accepted as undoubted the assertions contained in the paragraph quoted.

* Italicized by the author.

Now let us carefully examine this popular, but, what I believe to be, a most unphilosophical means of cleansing, to see if it possesses the three qualifications mentioned in the beginning of this chapter.

There is no doubt as to its possessing the first qualification. That it does not, of itself, produce irritation is one of the good features its friends urge in its favor, and it is not uncommonly said of it, as of homœopathic remedies, that if it does no good, it will surely do no harm, but this can only be said of its primary effects, its secondary effects are harmful.

Next, does the Weber douche make direct application to every portion of the diseased surface? That Dr. Thudichum made a grave mistake when he asserted that it did do so, may be conclusively proven by the following experiment: First, cover the mucous membrane of both nasal cavities, of the person upon whom the experiment is to be tried, with finely powdered starch, by insufflation, both in front and from behind the velum palati; next incline the head forward, as recommended by Thudichum, and pass a weak solution of iodine and iodide of potassium through the nasal passages by means of this douche. The iodine solution will either discolor or wash away all the starch within its reach; the discoloration will be the characteristic blue of iodide of starch. The effect of the washing may be seen by reflecting natural light upon a pharyngeal mirror, placed under and behind the pendant soft palate, and by inspection through the anterior nares. The washed or discolored

portion of the mucous membrane, will show that the greatest height reached by the iodide solution, in the antero-superior portion of the cavity, was only a little above the anterior extremity of the middle turbinated process, (*b* Fig. 4) and that, only that portion of the

Fig. 4.



Anterior-posterior section of the head and face, showing the turbinated processes *a, b, c; d, d*, the location of the encrusted secretions in the highest portion of the nasal cavity; *e*, the height that the water attains in the nasal cavity while using the Weber douche while the head is inclined forward. The dotted lines indicate the position of the posterior border of the septum nasi.

cavity lying below a line drawn from this point to the lower surface of the posterior nasal opening, is washed; all the surface above and posterior to that line (*d. d.*) is not washed, the uncolored starch remaining plainly in view. In other words, the solution flowing into the nasal cavity, will rise until it reaches a level that is on a horizontal line (*e.*) with the inferior surface of the posterior nasal opening of the side into which the liquid was introduced; then,

instead of rising higher, upon the introduction of more fluid, it will flow around the posterior border of the septum narium (dotted curved line, Fig. 4.) over that portion of the soft palate which joins the hard palate, into the other nasal opening, and thence out through this passage.

Thus it will be seen that instead of "touching every part" of the cavity, as asserted by Dr. Thudichum, only a little more than the lower half of it is touched, and it is that half, too, which is very rarely incrustated, seldom requiring cleansing or treatment. The upper half, the region whence all the secretions flow, that find lodgment in the inferior portion of the passage, remains untouched, and hence, uncleansed. In the other nasal passage, the floor only is washed, and not the middle meatus as Dr. Thudichum declares.

It is a mistake to suppose that the elevation of the soft palate against the posterior wall of the pharynx will cause the fluid to rise higher in the nasal cavity, than has been stated, because the liquid has still the same avenue for escape, namely, around the septum nasi and through the other posterior nasal opening.

Nor can the nasal fossæ be filled by the closure of the other nostril. This act will cause the liquid to rise a little higher in the nasal passage, but before it is nearly filled, a part of the fluid will flow upon the upper surface of the soft palate, its presence upon this sensitive organ will occasion involuntary deglutition, instantly followed by partial strangulation, or chok-

ing, because of the liquid falling into the open larynx.

It will appear manifest to all who have studied the anatomy of this portion of the head, that it is not the elevation of the soft palate, nor the closure of this passage into the fauces, nor the closing of both nostrils, but the position of the head of the patient that governs the amount of surface touched by the water. The nasal cavity, while the head is in an erect position, will not retain a liquid any more than a tea cup while lying on its side, but the more the head is inclined forward, or until the posterior border of the septum nasi (see dotted curved line Fig. 4) is placed in a horizontal position, the greater the amount of liquid retained in the nasal cavity. But should this douche be used while the head is held in this position a far more serious inflammation will result in other cavities of the head, than in the one being treated, for a part of the irrigating fluid, in which there is dissolved secretion, will pass into the antrum of Highmore, and a part into the frontal sinuses, through openings under the turbinated processes.

As the irrigating fluid from the Weber Nasal Douche does not touch that part of the nasal cavity in which the greatest amount of secretion is lodged, it does not, therefore, possess the third qualification. These hardened masses form in the neighborhood of the superior and middle turbinated processes, and are remarkable for the tenacity with which they adhere to these surfaces. If the stream could be thrown

with sufficient force to reach these localities, instant, involuntary deglutition would take place. I have a few times used two and even three gallons of fluid to effect this purpose, and then, the time required for the passage of that amount of fluid was not sufficient to soften and remove that portion of the hardened mass, with which it came in contact. During its passage through the cavities the healthy mucous membrane will have absorbed enough of it to cause a narrowing of the passages to such a degree that the patient will be compelled to breathe through the mouth. Several such applications, will produce so great a degree of tenderness, that the least exposure to a cold atmosphere will likely induce an attack of acute catarrh in portions of the membrane heretofore unaffected.

I believe I have plainly demonstrated the inefficiency of the Weber Douche; yet I will show, in addition, that it produces an injurious effect upon every patient who uses it, by insidiously extending the inflammation to unaffected parts. In some instances the ill effects manifest themselves suddenly and severely, but the number thus affected is remarkably small in proportion to the large number who have used and are daily using this instrument. A member of one of the largest firms for manufacturing surgical instruments, informed me that not less than 25,000 of these douches were sold annually.

One of my patients began using this douche in March, 1871, employing it as a means of cleans-

ing, from one to three and sometimes as high as four and five times daily, very rarely passing an entire day without its use; making in all a total of about three thousand applications. Twice, during this period, he experienced painful sensations in his ears; and on four or five occasions a pain in the left cheek, showing that the left antrum of Highmore was injuriously affected by it.

I have seldom treated a catarrhal patient who has not, in the endeavor to be rid of the disease, used this douche a great many times. Yet I have heard few complaints entered against it, because of a recognized injury received. So small, indeed, is the number who experience injury to the ears or sinuses from its employment, that in my opinion, were the method as effective as claimed by Dr. Thudichum, its use should not be interdicted on account of the occasional bad results therefrom.

I do not condemn the use of this instrument, because in a comparatively few cases, out of thousands who employ it daily without instructions or warning, it originates an acute inflammation, *but because of the injury done to the healthy surfaces, without at the same time benefiting the unhealthy or catarrhal surfaces.* This is a *double fault*, for which the profession should condemn it.

The application of water or any fluid to the nasal cavities, is always productive of more or less injury to the healthy mucous membrane. But if by its application, vitiated and irritating secretion is removed,

which removal could have not been accomplished without its aid, the injury the healthy membrane receives is counter-balanced by the benefit accruing from the cleansing of the inflamed membrane. The danger to be most dreaded is the susceptibility of the healthy membrane, after these frequent absorbtions, to catarrhal inflammations; and should deter every one from employing this method. I am certain that fully ninety-five per cent. of the cases coming under my observation, have not only maintained their catarrh, but have caused the inflammation to extend to other parts of their nasal passages, as well as to neighboring cavities by the use of this douche.

Dr. Roosa's experience, given in his work on The Ear, in regard to the liability of extending catarrhal inflammation by the use of this douche, corresponds almost exactly with my ideas previously stated. He says: "As early as 1869, I had found that the nasal douche was sometimes a troublesome and dangerous appliance, and I added a note to indicate this in my translation of Van Trœltseh on the ear, [second edition, page 369,] but I was not fully convinced that it would readily cause acute aural inflammation, until the following case occurred in my practice. * * * Besides, as it is believed by many otologists, it is possible that the douche sets up a chronic inflammation of the tympanic cavity, without any acute stage, and thus the true cause of an insidious chronic catarrh is passed over and supposed to be an advance of the naso-pharyngeal inflammation. Of course it is not believed by the author that the use of the nasal douche will necessarily cause disease, but that it is a danger-

ous means of treatment which should be carefully watched by the practitioner."

Dr. L. Turnbull is a strong advocate of this method of treatment, yet it is evident that the facts he records in his work on *The Ear*, also agree with what I have said. He says: "There are some important cautions to be observed: first, the fluid must be of the temperatnre of the body [about 96°]; second, the patient must breathe gently with the mouth open; and lastly, must not swallow, else the fluid will pass into the middle ear and cause the following results, well told by a patient in the following letter from Frederica, Deleware:

'MY DEAR SIR:—I find on using the nasal douche, as recommended by you, that it affects me somewhat unpleasantly. I find no difficulty in passing the water as directed from one nostril to the other, or back into the throat. On passing the water into the throat the Eustachian tubes apparently are also filled, and give the same sensation I have experienced when a boy, in swimming, and what we used to call "bubbles in the ear." I cannot free my head of the water taken in for some four or five hours after using the douche. I then feel as if I had taken cold. My ears feel sore, pressing the tips of the fingers into the external ear causes a dull pain, apparently about the drum of the ear. This passes off in about twelve hours. I am much more deaf than usual for some hours after using the douche. Yours Respectfully,

J. R. H.'

"To this form of medication there are some other objections which have been made by Professors Roosa and Knapp, viz: that otitis media may supervene, and perforation of the membrana tympani be caused by excessive sneezing, the result of using the douche; but no such results have followed the extensive use of this most valuable means employed by the author

in hundreds of cases, both of ear diseases and of oœna with or without deafness.”¹

No stronger condemnation could be given, than this patient has given in his letter, and instead of its being a most valuable means, as claimed by Dr. L. Turnbull, the experiment with the powdered starch and iodine solution demonstrates that it is really valueless, except as to its power to remove the secretions that occlude the inferior portions of the nasal passages, enabling one to breathe with some degree of freedom. It is because of this relief afforded, and the pleasing effects of the warm liquid, bathing the inflamed surfaces, that patients express themselves pleased with the method. I have noticed, too, that patients making such expressions are almost invariably of a class whose nasal cavities were plugged by inspissated secretions, and who suffered in consequence of the heat arising from the inflammation, and not from that class whose catarrhal complaint allowed a free passage for breathing.

Commonly, physicians in reporting the favorable results attending the application of this douche in a very bad case, say, as Dr. Thudichum said: “It is really suprising what an amount of sordes will sometimes be removed from the nose by this rinsing process,” or “that great masses of hardened, offensive secretions are washed out, and that this relieved the patient of an ever present weight in the head.” Such

1. *A Clinical Manual of the Diseases of the Ear.* By L. Turnbull, M. D., Philadelphia, 1872.

expressions as these might lead the readers of the report, as it led me, to presume that if this method of treatment would produce so marked, so beneficial a result upon so bad a case, it would certainly cure one that was but slightly affected. But the fact is, that so far as relief and cure are concerned, the very reverse of this is true; the cases of catarrh, with profuse discharge, are relieved but not cured, and those but slightly affected, are injured without being afforded any relief.

That this method will remove the secretions formed in the inferior and anterior portions of the cavity, is not denied, but this is all that it will do; its usefulness ends here. This removal permits the patient breathing room only, the disease is not even checked. The more important part of the treatment that is to cure the complaint, consists in the complete removal of the unhealthy secretions from every portion of the cavity, which this douche cannot do. The superior portions of the cavity are those most necessary to be cleansed [*d. d.* Fig. 4.] as the disease originates there, consequently there are always accumulations on these surfaces, however slight the catarrhal affection may be. There are many patients, severely afflicted ones too, in whom the lower portion of the passages is entirely clean and healthy. These persons will be injured by daily applications of water even in small quantities.

I will now relate a part of my experience in the employment of this douche, that I may be enabled to

give the history of the circumstances which led to the discovery of its inefficiency.

In January, 1863 while located in the U. S. Gen. Hospital, at Jefferson Barracks, Mo., I had two patients under my care who were suffering from nasal catarrh. I directed them to wash the nasal passages with various solutions, using, as a means, a Matison soft rubber syringe. Other patients noticing the applications, requested treatment for a similar complaint. During this year and the one following, I treated, or attempted to treat, in all, sixty-eight patients. The failure to more than maintain a passage through the nostrils, added to failures that occurred years before on a large number of patients similarly affected, induced me in January, 1865, to open a correspondence with a class-mate in Boston, who had recently visited the hospitals in London and Paris. From him I learned of Dr. Thudichum's article on a "New Mode of Treating Diseases of the Cavities of the Nose," which appeared in the *London Lancet*, of November and December, 1864.

These articles contained a full description of the Weber Nasal Douche, and gave a list of remedies to be used. Their tone was so confident and so assuring that I was ready to conclude with my friend, that at last we had the means of combating this complaint, which had heretofore baffled all endeavors. At the time I received the two numbers of the *Lancet*, I had six cases of nasal catarrh in my ward. So cer-

tain was I of curing them by this method that I wished I had sixty instead of six cases.

The patients at first were greatly pleased with the effects of the washing, and I could see that the prominent symptoms were abating.

After a few week's treatment, I noticed that it was only those patients whose nostrils were filled with sordes during the night, that continued to give favorable reports. About four months after, one patient, on whom I had made applications with the douche, refused to have it applied, because as he claimed, it caused intense pain in the left side of the face, in the upper jaw and also in his forehead. Soon after this, another patient informed me that it produced nearly the same effect on him, and moreover, that the secretion from his nose and throat were more profuse than at any time during his life, his catarrh being but a slight one when I commenced to douche him. The first patient injured by the washing, had an inflammation of the antrum of Highmore, on the left side. He insisted that the douche caused it, but I did not think so at the time, because, on examining his teeth, I found that the second upper molar, whose fang sometimes penetrates into the antrum, was decayed. I treated the diseased antrum through the opening made by the tooth. The case, so far as the diseased sinus was concerned, recovered in about five weeks.

As I considered that the decayed tooth originated inflammation of the antrum, I recommended that the patient allow me to use the douche again. He did

so, and I had made but four applications, when a severe inflammation of the antrum again ensued. From this attack he recovered after about two months close attention with careful treatment. The second patient who had an inflamed antrum recovered without any special treatment. I merely let him alone; the catarrhal symptoms also improved upon non-interference.

I discovered about this time, that while the douche could be used with good effect upon those patients who had a profuse discharge from the head, it proved injurious to such as had but a small quantity of secretion, and that in a fluid condition.

In order to ascertain the reason, for the difference in the effects produced by the same treatment, I made a post-mortem examination of a man who had died suddenly of paralysis. He had had a profuse catarrh, and had been treated by means of the douche for about three months; having had daily applications made for about ten days, after which time, every other day. This treatment afforded him great relief when first employed, and he expressed himself as certain it would ultimately effect a cure. Notwithstanding he had been regularly douched for three months, and his head (according to request) washed out about six hours before his death, I was astonished to find, during the post-mortem examination, that the posterior portion of the superior half of the nasal cavities (*d. d.* Fig. 4) was incrusted with old and exceedingly offensive secretion.

Having made an antero posterior section of the

head, I cut a large opening in the septum nasi and placed over it a piece of window glass large enough to cover it; then I inclined the half-head forward, as recommended by Thudichum, inserted the rubber tube into the nostril and caused water to flow into the cavity, in the same manner that I had done in the treatment of my patients. Through the glass septum, I saw that the water was maintained in the cavity at that height only as was on a level (*e. Fig. 4*) with the lower portion of the side douched, and that it could not wash the superior and posterior portions of the nasal and pharyngo-nasal cavities, (*d. d. Fig. 4*); washing the inferior and anterior portions only (*a. b. Fig. 4*). This experiment at once solved the mystery, as to how this form of treatment produced beneficial effects in cases of profuse catarrh, while never checking the formation of purulent secretions either in cases of a severe type or in mild ones. I had then used the Weber Douche for eight months, (Sept. 1865), making from five to twenty applications with it every day, and had thoroughly satisfied myself that it had gained its reputation because of the relief or benefit afforded those patients only, who were suffering from profuse secretions and large incrustations.

As the medical journals continued to praise this method, as the best means known for alleviating bad cases of this disease, I continued to use it until June, 1866, at which time I had two patients (I was then in private practice) whom I injured by its use. One

of them suffered so intently from otitis media that I perforated the membrana tympani; the other had an inflammation of the antrum of Highmore. At this time, partly at the suggestion of a patient, I began to recommend the inhalation of water from the palm of the hand (described in a previous chapter,) instead of using the douche. In September 1868, I treated two cases whose ears were injured from the use of the Weber Douche. At this time I called the attention of the St. Louis Medical Society to the deficiency of this instrument, demonstrating, by means of drawings on the blackboard, the manner in which the irrigating fluid failed to reach the superior portion of the nasal cavity. In both of these cases, perforations of the membranæ tympana had occurred; one of the patients being seriously ill for a period of four weeks from an inflammation of the mucous membrane of the mastoid cells.

In 1869, I treated two cases whose ears were injured by its use. One had serious inflammation of the left mastoid process, it being greatly swollen and required a free incision to afford relief.

In 1870, I had five cases who were injured by this apparatus. I took pains to inquire whether or not they had informed the physician recommending the douche, of the bad effects of the treatment, and learned that they had not done so.

In 1871, I had only one case injured by it. He had been using the apparatus about four years, and had noticed that whenever he had a cold in his head, he

experienced the sensation as of water passing into both ears. He informed me that several of his acquaintances were affected in the same way; "but," he said, "each of us had earache when we were young, and I thought that the earache had made our ears weak."

In 1872, I treated four cases injured by the same means. Three of these had but a slight affection of the ears; two of the three had otorrhœa when young, the third one had no affection of the ear except that occasioned by the use of the douche. The fourth case was affected in the left antrum of Highmore; I had a molar tooth, which was partially decayed, extracted to afford an opportunity to treat the cavity.

In 1873, I had two cases, both of whom had otitis media, but neither very severe. No history of otorrhœa previously, but both had defective hearing before using the douche.

In 1874, I had six cases of otitis media from effects of using the douche, and two cases in which the antra were injured by this apparatus. All the cases were mild.

In 1875, I had three cases from the same cause. One of these cases was a severe one, and had previously, an affection of the ear. The hearing in each of these cases was quite defective.

In 1876, I had seven cases of otitis media, and one of inflammation of the antrum of Highmore, and one of inflammation of the frontal sinus. The hearing in the seven cases was defective before using the douche, but much more so after its use had caused inflammation.

of the middle ear. In two instances I perforated the *membrana tympani*; in one case the perforation closed in four days, in the other in about three months. In the case of the inflamed antrum, I had a second molar extracted to allow the escape of the pus. The case with inflamed frontal sinus was very severe, the lower portion of the forehead being greatly swollen and very red, the pain was so intense as to prevent sleep for three days.

During each succeeding year I have treated patients who were injured by the use of the Weber Douche. In 1877, I treated twenty cases. In 1878, thirty-two. In 1879, eighteen. In 1880, twenty-one. In 1881, forty-seven.

Connected with the history of nearly every one of my patients, I have noticed this fact, namely: that their ears and antra were in a more or less inflamed condition before the applications were made, which to a degree, lessens the censure that might be attached to this method of cleansing the nasal passages. In all cases where there were evidences of a diseased condition of the ear, except in those who suffered from perforation of the *membrana tympana*, if they desisted from the act of deglutition, thus preventing the entrance of water into the middle ear, the employment of this douche, as a cleansing agent, did not produce acute inflammation. The ears of those patients whose *membrana tympani* were perforated, were unaffected by the use of the douche, even if the act of swallowing was performed while the water was in the

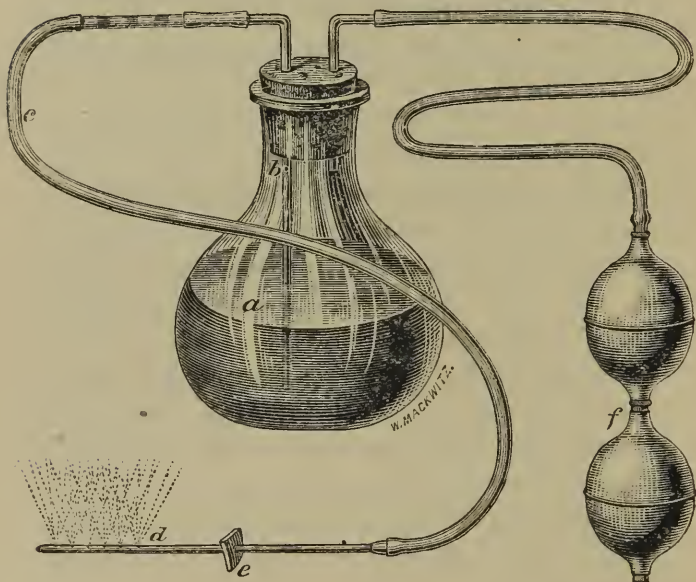
pharyngo-nasal cavity. I think it barely possible for water to enter a middle ear if its membrana tympani is perforated. I have also noticed that those patients whose ears had not manifested any symptoms of a diseased condition previous to the use of the douche, did not mention any bad effects, even when the water had entered their ears. My observations have taught me to expect that all patients, whose ears were affected by an acute inflammation at the time of using the douche (except in those cases whose tympana were perforated), would aggravate all the acute symptoms suddenly, if they performed the act of deglutition, while the water was being forced into the nasal passages so rapidly that it would flow upon the upper surface of the velum palati.

Even were it not possible to select those patients who should not use this method of cleansing the nasal passages, I would not consider this a sufficient reason to condemn it, provided it had a salutary effect on all those patients whose ears and antra were uninjured by it; but since it proves a serious injury to some patients, and signally fails in every case to reach the locality in which the disease originates, thus returning no compensation for the injury done to un-inflamed mucous membrane by its absorption of water, then, surely its use should be discontinued.

After duly noting the inadequacy of the Weber Nasal Douche, I devised an apparatus in June 1867, which I have called the Catheter Nasal Douche. (Fig. 5). It throws a coarse spray of liquid from

the floor of the nostril upward, reaching every portion of the irregular surface of the cavity, making efficient and direct local application. When warm

Fig. 5.



Catheter Nasal Douche; *a*, container, *b*, metal tube for passage of the liquid, the *letter* is placed beside a small aperture in the side of this tube which is to allow the entrance of air; *c*, discharge tube, which is made of soft rubber and glass tubing; *d*, catheter with foramina, for the escape of the air and liquid; *e*, triangular piece of soft rubber, perforated and slipped on the catheter; *f*, india rubber air bulbs used to force air into the container *a*.

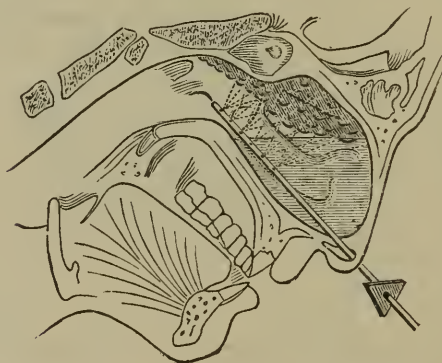
salt water is used, the only sensation occasioned is that of tickling, to which the patient soon becomes accustomed.

The apparatus consists of the following parts: The

vessel containing the cleansing fluid is a flask shaped bottle (Fig. 5) of a pint or a pint and a half capacity; into the soft rubber stopper of this bottle are inserted two metallic tubes, whose outer extremities are bent at right angles, and turned in opposite directions. The shorter of these tubes is long enough to pass through the stopper, and has attached to its outer extremity, India rubber air bulbs (*f*). The other metal tube (*b*), extends nearly to the bottom of the container, attached to its outer extremity is a discharge tube (*c*), which is about twelve inches long, and is composed both of soft rubber and glass tubing, which last is about three inches long and forms a part of its first third. To the outer extremity of the discharge tube, is fastened a No. 5, or a No. 6, flexible catheter (*d*) six inches long, at the further end of which are five or six small openings three-eighths of an inch apart, in a line with its axis. The free extremity of the catheter is closed. A perforated triangular plate (*e*) of soft rubber, with one inch margins, is slipped on the catheter about three and a half inches from the closed extremity. This plate prevents the liquid from flowing on the operators hand and serves to direct the stream, and regulates the distance the instrument is inserted into the nostril. (See Fig. 6). The metal tube, whose lower extremity dips into the fluid in the container, has a small aperture in its side just under the rubber stopper. This opening allows air to enter during the passage of the liquid up the tube, the object being to cause it to contain beads of

air and fluid alternately. These beads of air and liquid should be about one-half an inch long, consequently equal in size. Then when the air and solution escapes from the openings in the catheter (*d*), it will be a coarse spray. The relative size of the beads of water may be ascertained by inspecting the glass portion of the discharge tube, after the stream in it has been suddenly arrested by compressing the rub-

Fig. 6



Antero-posterior section of the head, showing the catheter introduced into the nasal cavity, and the direction of the coarse spray. The triangular piece of rubber *e*, on the catheter will indicate the distance the catheter is introduced into the nostril and the direction that the stream is taking.

ber tube near the catheter. If the air beads are the larger, then the aperture (*b*) under the rubber stopper in the long metallic tube, is too large; but if the air beads are smaller than the water beads, the aperture is too small. In either case the aperture should be of such size that the beads of the two will be of about equal size.

THE MANNER OF USING THE CATHETER NASAL DOUCHE.

The catheter with the foramina looking upward, is introduced horizontally into the nasal passage containing the hardened secretion. The air is then forced into the container (*a* Fig. 5) by compressing the lower air bulb (*f*); this will condense the air in the container, force the liquid into the discharge tube (*c*) and out at the foramina (*d*) in the catheter. The solution will leave the catheter in a coarse spray and will pass directly upward, reaching the highest portion of the cavity, removing all the catarrhal secretions from their lodging places under the turbinated processes. The catheter should be slightly rotated on its axis. The cleansing process may be greatly assisted by the patient closing the nostril not treated, and then giving a quick, forcible blow out of the one being washed, care being taken not to blow so hard as to effect the ears. This will expel the liquid and everything loose, with considerable force.

THE NASAL GUARD.

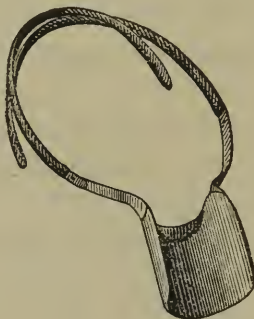
A nasal guard (Fig. 7), fitted on the head so that it may be placed under the nose, will prevent the irrigating solution and the catarrhal secretions from falling on the lips, and from soiling the clothing when the patient is blowing his nose.

This is a much milder method of cleansing the nasal passages than could be done by a continuous

stream from any form of syringe, applied either in the anterior or posterior nasal openings, and evidently much more efficient than could be done by the Weber Nasal Douche.

The Catheter Nasal Douche possesses all of the

Fig. 7.



This guard is retained in position on the head by the two springs clasping the top of the head so that the spout may be placed under the nose.

qualifications, required for a thorough, efficient and mild means of cleansing, namely: 1st, It does not produce irritation; 2nd, It throws the irrigating fluid to all parts of the nasal cavity, even under the turbinated processes; and 3rd, It has force enough to remove all the hardened secretions, and to cleanse the surfaces after their removal. This apparatus is entirely under the control of the person operating it. The spray of air and liquid may be thrown with that degree of force necessary to strike and remove the

inspissated secretions, then only sufficiently hard to cleanse the surfaces after their removal.

The amount of liquid employed is a matter of the greatest importance. Bearing in mind that the mucous membrane in its healthy condition absorbs to its injury, more or less of every liquid that comes in contact with it, causing it to become swollen, in which condition it is more susceptible to injury from out-door atmospheric influences. Hence, the application of water should be discontinued immediately after the hardened secretions are removed, even though a continuation of the washing produces a pleasant sensation.

If at any time the force of the stream is such as to produce a painful sensation, lasting longer than one or two seconds, the washing should be discontinued even though the passages are not entirely cleansed, if the pain occasioned last longer than one minute it must be deferred several hours. At any time when the washing is resumed, it must only be continued with such force as to occasion *no disagreeable sensation*.

This operation should be performed in the morning, before breakfast, using only as small a quantity of liquid as will cleanse, and repeated only so often as is necessary to keep the passages free of hardened secretions. When the secretions cease to be hard, the patient should *discontinue* the use of the Catheter Nasal Douche, and inhalation of the liquid from the palm of the hand or from a sponge should be substi-

tuted, as the latter method will prove sufficiently effective, and is less troublesome.

THE SOLUTION USED.

The cleansing solution is made by dissolving in a pint of water a little warmer than blood heat, a teaspoonful of common table salt. Patients will soon learn from experience whether or not this is the right strength and temperature. Water, either without salt or with too much in it, produces more or less pain, but with the right quantity (which varies slightly with different individuals), it produces a pleasant, bland sensation. Cold water causes a disagreeable as well as injurious effect.

For those patients who find the secretions offensive, five grains of salicylic acid and two grains of carbolic acid should be added to the pint of water.

CHAPTER XV.

CLEANSING THE EARS.

Whenever the otorrhœal secretion of a middle ear is so excessive, that the mucous membrane cannot absorb it, mechanical means, sufficiently effective to reach every portion of the tympanic cavity, must be resorted to, but the cleansing must be done in such a manner as not to cause the slightest irritation.

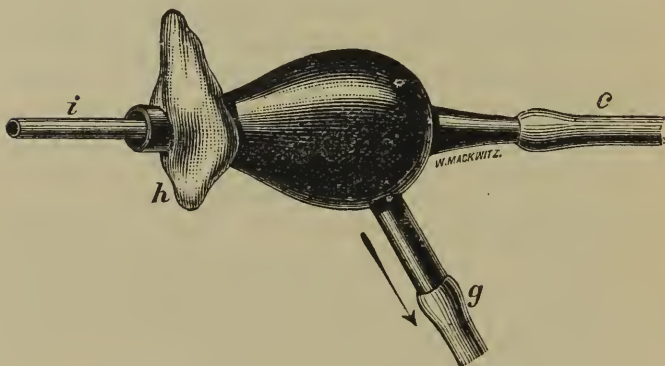
Muco-purulent secretion, if allowed to remain twelve or more hours, acquires an acrid property, which not only maintains the inflammation, but tends to increase it, and originates the condition most favorable to the growth of aural polypi.

The usual hard, or soft rubber or glass syringe should not be given to patients, as they rarely, if ever, use them in such a manner as to throw a uniform stream of the cleansing fluid into the ear, and not infrequently do these intermittent streams occasion very disagreeable sensations by striking the drum with too great force. A few patients might become so exceedingly expert in handling any kind of apparatus, as to successfully accomplish the cleansing of the ear, but generally an attempt with these instruments, on the part of the patient, results in complete failure.

I consider that Lucæ's injector (Fig. 8) is the best

instrument in use for this purpose. While using it the patient can hold his head in any position desired (a very important matter too, as will be seen further on), because the extremity fits into the ear so closely

Fig. 8.



The modified Lucæ Ear Injector, (full size). *c*, The soft rubber supply tube. *i*. The small soft rubber tube that passes into the meatus to within one-quarter of an inch of the membrana tympani. The cleansing fluid passes from the tube *c* through the small tube *i*. After the water has spent its force on the drumhead and middle ear, it flows back, outside of the small tube, to again enter the injector and pass out by the tube *g*, which conducts the liquid into a receptacle by the patient's side. *h*, A gutta percha ring that has been moulded, while warm, to fit the parts surrounding the outlet of the auditory canal; this ring, with gentle pressure, prevents the escape of the water except through the tube *g*.

that the water cannot escape except through the instrument itself, thus preventing it from running on the patient's clothing.

This instrument is made of hard rubber or soft metal, and is about three inches in length. It consists of two tubes, one within the other, the *inner* one con-

ducts the cleansing fluid *into* the ear, the *outer* one, —the calibre of which is larger than the outside diameter of the inner tube—conducts the water *from* the ear. To the outer extremity of the instrument, which is the inner tube, is attached a soft rubber tube (*c*) through which the fluid passes to cleanse the ear. To the outer tube (*g*) is attached a piece of soft rubber tubing, about two feet long, through which the liquid, after it has washed the ear, is conveyed into a receptacle at the patient's side. To this most excellent ear injector of Dr. Lucae's, I have added one or two slight modifications. To the extremity of the inner tube, I have attached a small soft rubber tube (*i*), of the same calibre as the inner tube, which projects three-fourths of an inch beyond the injector. Its object being to convey water so near the drum of the ear, that the force of the stream will be but slightly counteracted by the returning water from the middle ear; the stream being thus rendered more efficacious without employing a great degree of force. As this tube is very flexible the patient is in no danger of injuring his ear, either by an unsteady thrust, or a side movement of the instrument.

Not unfrequently a child's ear is so excoriated by the outflowing otorrhœal discharge, that the meatus is too painful for him to press the injector into his ear with sufficient force, to prevent the escape of water down the side of his neck. To obviate the necessity of pressing the instrument into the ear, in this way, I have surrounded the extremity of the injector, that en-

ters the ear, with a wide ring (*h*) of gutta percha. This ring is moulded to fit the parts immediately surrounding the auditory opening, by first softening the gutta percha in warm water; while in the softened condition, it should be made to fit around the point of the injector and then pressed gently into the ear, care being taken not to burn the child's ear by the hot ring. As soon as the gutta percha is cold it becomes hardened.

While using this ring, the injector will need but slight pressure to prevent the outflow of water, except as it passes out through the instrument. If both ears require cleansing, it will be necessary for the patient to have two injectors. Of course, these rings will not fit any other ears than those of the patient to which it has been moulded, therefore, they require to be freshly moulded for every patient.

MANNER OF USING THE EAR INJECTOR.

The slender soft rubber tube (*i* Fig 8.) that projects into the ear, will to some extent, follow the curved course of the auditory canal, yet, experience has proven that the stream, almost invariably, strikes its posterior wall. In order, therefore, that the stream may pass through the perforation in the drum-head and enter the middle ear, without wasting its force on the sides of the auditory canal, the patient should straighten this passage as much as possible; to accomplish which he should throw his arm, *i. e.* the one opposite the ear to be washed, over the top of his head, and flex

it toward the ear, so as to grasp the auricle with the thumb and finger and pull it upward and backward (Fig. 9), holding the injector into his ear with the

Fig. 9.



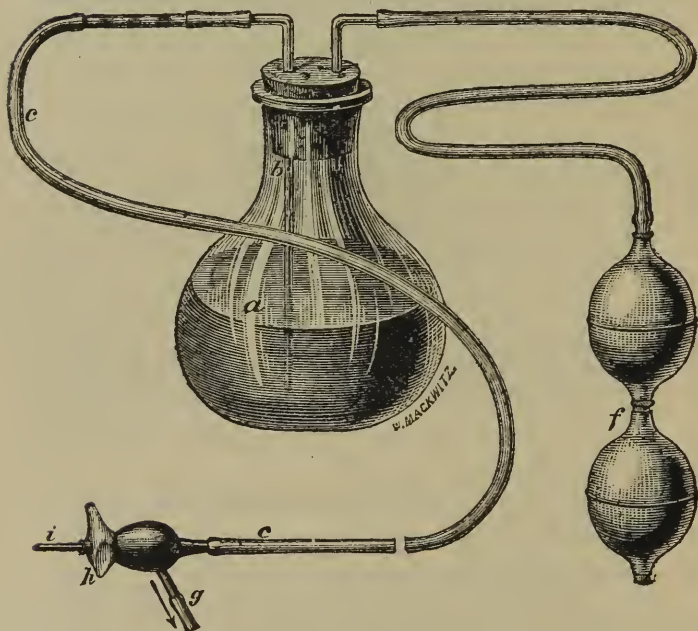
Showing the position taken in first introducing the ear injector. The patient holds the instrument into the ear with one hand, and draws the ear, that is to be cleansed, upward and backward with the other hand.

other hand.

The irrigating fluid may be taken from an ordinary pitcher by means of a syphon, or from the same container (Fig. 5) as that employed for the catheter nasal douche, already described on page 101. If the latter is used, the catheter should be removed from the tube (*c*), and the ear injector attached in its place, (Fig. 10, *c*); the aperture (*b*) on the long metal tube under the rubber stopper of the container is closed, by slipping over it a piece of soft rubber tubing. This will prevent the entrance of air into the stream as it leaves the container, which, while essential in using the catheter nasal douche, would be quite objectionable in the ear injector. The water is forced from the container (*a*) and injector, by forcing air into the container by com-

pressing the lower air bulb (*f*), the force of the stream being regulated by the amount of air forced into the

Fig. 10.



Reservoir for forcing the cleansing fluid through the Ear Injector.
a, Container. *b*, Perforation in the long metal tube; this must be closed by slipping a short piece of rubber tubing over it. *c*, The soft rubber hose through which the solution passes to go through the ear. The stream leaves the injector after passing through the small tube *i*. *g*, Soft rubber tube that conducts the water away from the ear. *h*, Ring to prevent the water from flowing down the neck of the patient. *f*, The rubber bulbs for forcing air into the container, *a*.

container (*a*). Occasionally dizziness or other disagreeable symptoms are produced by the stream being

injected with too great a degree of force. Should this be the case, less force must be employed, as it is never necessary to use a strong current to cleanse the middle ear properly.

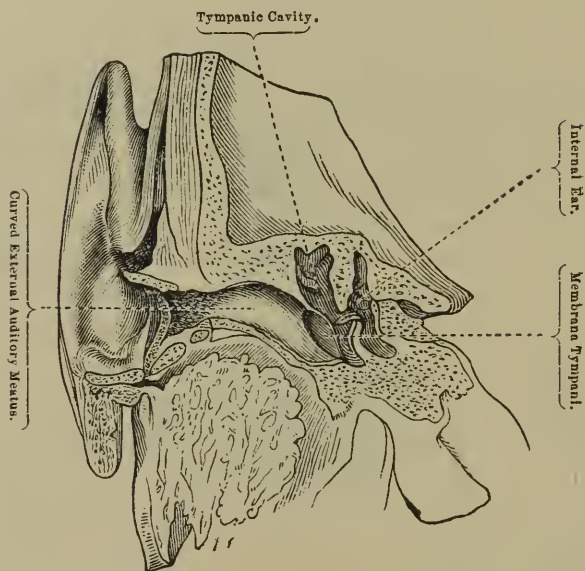
If an ordinary pitcher is employed as the container, from which the cleansing solution is taken, then a rubber hose about five feet long is required. One end of the hose is put into the solution, and maintained there by being tied to the handle of the pitcher. To start the flow of the stream through the tubing, a convenient way will be to place the outer extremity of the tube into one's mouth and suck out a small quantity of the air that is in it; this will be sufficient to raise the water over the edge of the pitcher. The outer end (*c*) of the ear injector is then slipped into the hose. A small quantity of the solution should be allowed to flow through the injector, so as to warm the tubing and the instrument, otherwise the ear will be injured by the solution that was cooled by the rubber and the injector. The force of the stream is increased by raising the pitcher above the head, and decreased by lowering it, until it comes on a level with the ear, when the flow will cease altogether.

METHOD OF CLEANSING THE EAR.

Merely washing out the auditory canal is but a small and unimportant part of the operation, and will fail to produce any beneficial results if the mucopurulent secretion is not entirely removed from the whole of the middle ear. The upper half of the tym-

panic cavity is situated above the superior wall of the auditory canal. (See tympanic cavity, Fig. 11.)

Fig. 11.



Section of the External Auditory Meatus; the Membrana Tympani; the Tympanic Cavity, etc. After Henle.

It is seen from this illustration, that the perforation in the middle of the membrana tympani will allow only the *lower third* (even less than that in many cases) of the tympanic cavity to be cleansed, if the head of the patient remains in the position that is usually occupied while the ear is being syringed, leaving *all* above the upper margin of the perforation *untouched*, consequently *unwashed*, as the water cannot be made to displace the air while the head remains in the erect position.

Consequently, filling the canal with water only fills that portion of the cavity lying below the upper margin of the perforation in the drum-head, (provided the head remains in an erect position), which is less than

- one-third of the cavity, all above this opening is still occupied by air, which will not be displaced by injections; and if the air is not displaced by the water, it is evident that the entire cavity will not be cleansed. (See description of Fig. 11.)

HEAD-MOVEMENTS OF THE PATIENT.

To allow the escape of the air, I instruct the patient to hold his head in such a position that the perforation or outlet of the tympanic cavity is placed *uppermost*, then the air in the ear escapes readily, upon physical principles.

That this result may be more perfectly accomplished, I have the patient describe a circle by a head-movement in the following manner: Commencing with the head in an erect position (Fig. 12), the stream

Fig. 12.

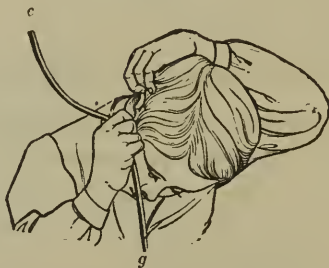


First position. *c*, Supply Tube. *g*, Tube to conduct the water away from the injector.

from the injector is allowed to flow into the ear for a few seconds, that the patient may become accustomed to the sensation produced; his head should then incline forward (the stream flowing continuously), until the

forehead assumes a horizontal position, (Fig. 13.), next rotating it toward the left (provided the right ear is

Fig. 13.



The head inclined forward while the patient still holds on to his ear and the injector. *c*, Supply Tube. *g*, Tube to conduct the water away from the injector.

the one washed), until the ear treated is parallel with the ceiling (Fig. 14), then continuing the rolling mo-

Fig. 14.



The head is held to one side, so that the cleansing fluid falls perpendicularly into the ear treated. *c*, Supply Tube. *g*, Tube to conduct the water away from the injector. The force of the stream should be lessened while the head is in this position, to prevent dizziness.

tion backward (toward the right) until the forehead again assumes a horizontal position (Fig. 15), with the face looking upward, when the rotating is continued

toward the right side, until the stream is thrown ver-

Fig. 15.



The head thrown back so that the forehead is horizontal. *c*, Supply Tube. *g*, Tube to conduct the water away from the injector.

tically into the ear (Fig. 16); the rolling motion is

Fig. 16.



The head thrown over to one side, so that the stream enters the ear vertically. *c*, Supply Tube. *g*, Tube to conduct the water away from the injector.

still continued until the forehead again assumes a horizontal position (Fig. 13), which completes one rotation of the head. These positions are assumed, one after

the other, so rapidly as to make one continuous movement of the head. Usually from five to ten rotations, occupying in all from one to two minutes, are sufficient to cleanse the tympanic cavity. However, the rapidity with which the cleansing may be accomplished, will depend upon the size of the aperture in the drum-head; the smaller the perforation, the greater the number of rotations required.

THE SOLUTION USED.

A solution for cleansing the ear is made by dissolving a heaping teaspoonful of common salt in one pint of warm water (98° F.). Patients soon learn the proper strength and temperature of the solution. Water either without salt or with too much in it produces a disagreeable sensation, when it is of too low a temperature an unpleasant as well as injurious effect is the result.

If the secretion is offensive, five grains of salicylic acid and three drops of carbolic acid should be added to the pint of warm salt-water.

PRECAUTIONARY MEASURES.

One should bear constantly in mind the fact, that the matter of ear washing can be overdone. The precautions noted on page for cleansing the nasal passages, will apply equally well to the cleansing of this organ. As soon as the cavity is clean, cleansing measures should be discontinued. Wash the ear as seldom as will keep it clean, using as small a quantity of water as possible.

After the ear is washed, the auditory canal should be thoroughly dried with cotton, well warmed. The cotton should not be tied on a stick and thrust into the ear, but should be twisted on itself so as to form a roll about one inch long, and a quarter of an inch in diameter; it should then be well warmed and made to enter the ear by a twisting motion between the thumb and finger; when it is well introduced, it should be untwisted by an opposite motion. This untwisting will make the roll larger, and thus render it more certain to wipe dry the whole canal. Two or three rolls of cotton usually suffice to remove the moisture, after which the canal should be anointed with vaseline, using a small camel's hair brush for the purpose. Then a *small* piece of cotton, well warmed, should be placed in the ear, care being taken that only three-fourths of the canal is filled, leaving the upper fourth open, in order to allow an interchange of air between the auditory passage and the external atmosphere. If ventilation is not maintained, the integument lining the auditory passage will be softened by undue perspiration, and the middle ear be over-heated and the disease aggravated.

This cotton pledget should be charged with salicylic acid, by placing it in a solution of this acid, in cold water, and allowing it to remain over night, it should then be taken out and gently compressed and laid aside to dry. Cotton so medicated has a beneficial effect on the secretions, probably preventing them from becoming fetid.

Patients who wear a ball of cotton in the ear, in place of an artificial membrana tympani, will not require any pledget in the canal.

EAR MUFFS.

All patients who have suffered a perforation of the drum membrane, should protect their ear against cold winds by wearing an "ear muff" or by some other equally effective means. A few minutes exposure to a cold, damp wind, will almost certainly increase a chronic otorrhœa, and a consequent further decrease of the hearing, if it does not occasion so severe an inflammation as to involve the health.

CHAPTER XVI.

THE TEETH.

Many years experience and observation warrants me in asserting that the presence of decayed teeth and diseased gums, maintain a catarrhal inflammation of the mucous membrane of the nasal and pharyngo-nasal cavities, the throat and ears. It is frequently the case that the disease can only be ameliorated while decayed teeth remain in the patient's mouth, even when they are painless. On the other hand, I have observed, in a few cases, that a catarrhal inflammation of the antrum of Highmore causes the teeth to become diseased. I think that it will yet be proven that the teeth do frequently become diseased because of excessive inflammation of the mucous membrane of the nasal passages and the sinuses.

At the first visit of a patient, I make as thorough an examination of the teeth as I do of the nasal passages. If the teeth are decayed, or the gums diseased, I not only earnestly recommend the service of a dentist, but, in many cases, insist upon it as indispensable.

A few illustrative cases demonstrate the correctness of the view that the teeth exercise no small degree of influence upon the system.

CASE I. In December 1866 Mr. H. æt. 37 years, a

lawyer consulted me in regard to a furious tinnitus aurium. He told me that the noise in his left ear was so great as to deprive him of sleep, and the tone of so melancholy a nature as to suggest suicide as a means of relief. During the three weeks previous to seeking my advice and treatment, the symptoms had been greatly aggravated, from the effects of using a nasal douche. I made an examination of his case, and learned that he had suffered from nasal catarrh since boyhood, and that he had aural catarrh as well. After six weeks treatment, the inflammation in both organs was greatly relieved, as was the tinnitus. After this length of time the noise in the ear remained about the same, except when I tried to ameliorate it by inflation, while the catarrhal inflammation continued to improve. I did everything for his relief that was adversed in the text books of the day. The more closely I followed the authors, especially observable when the Eustachian catheter was employed, the greater the tinnitus. Finally my patient observed and right strongly did he assert, that when I "left his ear alone" and mildly treated the nasal catarrh, the tinnitus lessened. Subsequently I gave the patient no treatment for a period of ten days. The result being an increase of inflammation in the nasal passages, also an increase of the noise in the ear. I treated the patient a few weeks longer and became discouraged at the unfavorable result. While in this frame of mind, I discovered that he had a number of decayed teeth, and several whose crowns were entirely gone, leaving five or six half covered roots in his jaws. As the majority of these were on the left side I advised that the fangs be withdrawn, and the diseased teeth and gums treated. The more I thought about the case, the more firmly

did I become convinced that what had at first been a mere suspicion, was in reality the obstacle that stood in the way of successful treatment. I insisted upon a removal of the teeth, and felt warranted in making a non compliances on his part, sufficient cause for a discontinuation of treatment, on my part.

Dr. Homer Judd, then of this city, a well known dentist, present in an adjoining room, was asked to be present during my conversation on the subject, with my patient. He stated that he did not know that an affection of the ear would be relieved by treating the decayed teeth, but he knew that the nerves of the teeth and those of the ears, were branches of a common nerve; that pain in the teeth frequently caused pain in the ears and vice versa; and, that as the patient's teeth were in a very bad condition, he advised that his mouth be made sound by treating his gums and teeth. This he said should be done, even though it did not have the effect of benefitting his catarrhal troubles. The patient submitted to the dental treatment and before it was completed, a marked benefit accrued to both the nasal and aural trouble, and the tinnitus, although not entirely removed, had decreased to such a degree, that in a few weeks time he was barely conscious during the day time of its presence. I have treated him almost every fall since for catarrhal trouble, but the ear symptom has never given him serious annoyance.

Since this experience I have not omitted to examine the teeth and gums of every patient. In many instances I believe my course of treatment has been greatly shortened, and rendered more permanent by the beneficial effects of the dental treatment on the general health.

Many additional cases could be cited, if necessary, to prove the correctness of my theory. The following statements of patients are appended, because the symptoms are rare and show more fully the relationship between the teeth and the other organs of the system.

CASE II. Mr. J. C., æt. 42 years, consulted me in January, 1867 in regard to catarrhal trouble. The treatment was so far successful that at the end of four weeks time he experienced but little annoyance from the complaint. Considering himself so much improved he discontinued treatment for a few weeks when the original trouble returned. I had failed to make a careful inspection of his teeth, for the reason that he wore an artificial plate. However, as I began to search for the cause of the return of the discharge I discovered that he had several roots of teeth, under the plate from which there was a continual discharge of pus, and learned that at such times as the catarrh was most troublesome and he had neuralgia in the head, his teeth were painful. I advised the immediate extraction of the teeth, and the patient readily consented. The effects were all that were anticipated and his neuralgia seldom troubled him afterward.

CASE III.—Miss G. W., æt 22 years, a singer in one of our church choirs, was treated in March, 1876, for naso-pharyngeal catarrh, and for impairment of her voice. On the first visit I noticed that her teeth were in a bad condition, and advised that she secure the services of a dentist. She promised to do so but from fear and natural dread of the pain occasioned, she deferred attending to the matter. The treat-

ment relieved the catarrhal trouble, but the inflammation of the vocal cords was but slightly ameliorated. Becoming discouraged at the success attending the treatment, she left me and secured the services of another physician, who treated her for several months with like results. In the Spring of 1877, she again visited me for treatment. I again insisted that she procure the services of a dentist: she complied and catarrhal treatment, continued for six weeks, gave results quite satisfactory.

CASE IV.—Mr.—, minister, æt 52 years, in May, 1877, requested treatment for hoarseness. During his visits he mentioned, casually, the fact that if any food became impacted between the first and second molar teeth of the lower jaw, he felt impelled to clear his throat by hawking. On one occasion a small piece of fish bone became fastened between these teeth. He made frequent unsuccessful efforts at its removal, which resulted in rendering him completely aphonic for two days time. The removal of the bone relieved him of the throat trouble entirely, and in a few days time his voice returned with no other treatment whatsoever.

CASE V.—Mrs.—, æt about 32 years, stated in October 1877, that frequently after contracting a bad cold, she had attacks of palpitation of the heart, also that during a period of three years past, she had at no time recieved dental treatment without giving rise to palpitation. On one occasion, being compelled to leave a tooth half filled, so severe was the attack of palpitation.

CASE VI.—Miss—, æt 19 years, told me in March, 1878, that during the past two winters, she always had pain in the left arm if she attempted to bite any hard substance; as an attempt to crack a fil-

bert or a hazel nut, on the left side of her mouth. The pain in the left arm was in every respect similar, to the pain not unfrequently experienced by patients who have a severe catarrhal inflammation in the left nostril.

CASE VII.—Mr.—, æt 42 years, in Dec., 1879, desired treatment for a continual clearing of the throat and occlusion of the nasal passages. He also had skin disease on one side of his face. Local and constitutional medication had the desired effect upon the throat and nasal passages, and the eczema was also ameliorated. As the patient had defective teeth in his mouth, I recommended he engage the services of a dentist to remove them.. Dr. A. H. Fuller of this city, extracted the roots of nine teeth. In two weeks the eczema was nearly well, in one month more there were no signs of it.

The following case is in striking contrast to the foregoing. It shows, not the beneficial effect of the dentist's work, as there were no decayed teeth to be removed, but the effect of irritating the teeth, by even one of the most cautious dentists.

CASE VIII.—Miss R., of Quincy Ill., professor of elocution, was treated in April, 1880, for paresis affecting one of the vocal cords. The case progressed as favorably as could be expected for several weeks, at the end of which time she had a number of teeth filled with gold. The filling was accomplished at intervals, extending over a period of several weeks, when she sat for three consecutive days in the dentist's chair. The result was a severe hoarseness and a relighting of nearly all the inflammation that had been reduced by the treatment. The irritation subsided in about ten days.

She subsequently took a very severe cold, but fortunately it affected the vocal cords but slightly, showing that the irritation occasioned by filling the teeth, produced a far more injurious effect on the still partially paralyzed and inflamed vocal cord, than did the subsequent severe cold.

CHAPTER XVII.

BATHING.

The remarks hitherto stated concerning the too frequent changing of the under-clothing by delicate patients will apply equally well to the too frequent bathing of the body by them. Ablution should not be performed more frequently than the surface of the body requires cleansing, which, probably, will not be oftener than once in one or two weeks, in warm weather, and once in four to eight weeks, in cold weather, with a few it may not be necessary to bathe at all during the cold weather. As patients regain strength and flesh, oil, the natural secretion of the skin, will increase in quantity, and because of its presence, extraneous matter will accumulate on the surface faster than when they were in a weak condition, consequently they will need to be washed more frequently; nevertheless bathing should be postponed as long as is *consistent* with cleanliness, until full and healthful vigor is enjoyed.

Many patients follow the common practice of bathing as *often* as possible, instead of as *seldom* as possible. Bathing as often as possible is harmful; because washing the body, *per se*, forms *no* part of the means that is to relieve them of their catarrhal complaint. This may seem strange doctrine to many, but

I know it to be true. I have had many weakly, thin patients, male and female, old and young who bathed from once and twice a week to once daily, being convinced at the same time, that they took cold from each and every bath, but followed the practice for months, simply because they knew that it was a popular theory that bathing was healthy. Bathing is beneficial for the healthy, but it does not follow that it is healthy for the sickly under all circumstances.

Very many children are bathed so frequently that they are maintained in an enfeebled condition. If a child, who is delicate, is bathed all over once each day and has a change of all its clothing, at the same time, it will become still more delicate, have less desire to play out doors, more capricious about its food, especially if it be plain, have a poorer digestion and be very liable to stomach and bowel complaints in addition to its catarrhal disease which is sure to afflict it. All of this can be said of almost every pale, delicate, well dressed child.

The bath, and the air in the bath-room should be of such a temperature as is pleasant to the bather. Immediately after the bath, a small quantity of vaseline should be applied the whole length of the spine, from the hair of the head to the hips, then annoint the feet. The effect will be very pleasant to the back, and to the feet, especially, if the latter are habitually cold.

Not uncommonly is the opinion expressed, that bathing in cold water is a preventive of colds. This

is far from being true even in a majority of cases. Usually, the advocates of this plan of preventing colds are individuals in full vigor of health and possessed of a strong constitution.

On the body of the healthy, there is a superabundance of oil secreted by the skin, it being a non-conductor of heat, such persons can take the cool bath with impunity, as there will be little danger of removing too much oil. After each bath the body will re-act quickly and perfectly. But patients who are thin in flesh and in a weakly condition, do not possess the strength necessary to overcome the sedative effects of a bath at a low temperature, nor can they loose the oil from the surface of the body without injury.

TURKISH AND RUSSIAN BATHS.

The Turkish and Russian baths are beneficial to patients in full flesh, while those who are in delicate health should never take them, as they rob the skin of its oil, thereby rendering them more susceptible to bad effects from sudden changes of temperature, and are generally debilitating. One, or at most two baths a week, are as many as should be indulged in by any patient. After eight or ten baths are taken, one every ten to fourteen days will be sufficiently frequent, great care being taken each time to allow the body to become cool before leaving the cooling room. I know of several instances in which a single Turkish bath paved the way for a cold so severe that

it threatened the life of the bather, because of too short a stay in the cooling-room after the bath. The opinion of a majority of my patients who have frequented these baths, is that a bather, who is liable to take cold easily, should remain at least one hour and a half in the cooling-room. Since the fall of 1876, I have recommended those of my patients who were most liable to take cold after these hot baths, to apply, just before dressing themselves, a small quantity of vaseline to the surface of the whole body. Most, liked the effect of it; a few who were very fleshy, did not notice any good effect from its application, while others who were sparely built, thought it prevented them from taking cold and prolonged the pleasant and beneficial effects of the hot bath.

CHAPTER XVIII.

APPLICATION OF OIL TO THE SURFACE OF THE BODY.

Catarrhal patients who are thin in flesh, and whose skin is dry and rough, are liable, because of this dry condition, to take cold easily during the seasons in which there are sudden and great changes of temperature. To such, I have prescribed an inunction to the surface of the entire body. The benefit derived, is an increase of warmth in the body and a decrease of the cold rigors that trace up and down the back.

The beneficial effects following inunction are a little more marked in children than in adults, from the fact that they are applied by a second person with more regularity and a greater degree of thoroughness.

I was first led to experiment with these inunctions, in 1859, after reading an article written by the late Sir James Y. Simpson, of Scotland. He contributed the results of his investigations on the "Eternal use of Oil," to the *Edinburgh Monthly Journal of Medical Science*, Oct., 1853. This paper is republished in his work on "Obstetrics." Second Series, page 441.

From the extensiveness of his observations, and the very satisfactory results following the application of oil externally, I resolved to try it for the amelioration of a case that I then (1859) diagnosed as acute

phthisis. The effect of the applications was all that could be desired. The profuse night sweats were at once lessened, and, after the fifteenth nightly inunction, entirely checked. The patient slowly recovered, made a trip to Pike's Peak—at that time a place of great attraction in the West—and is at present living in Wisconsin, in robust health.

I recommended several other patients to employ inunction. When they could be induced to use it as directed, the benefits were marked. But the impossibility then of obtaining an oil, the odor of which did not become exceedingly offensive, compelled me to desist from prescribing it, except in cases of children. They remained in the house, and the disagreeable odor offended the olfactories of the parents only, who were ready to endure any discomfort themselves, if it led to the recovery of their child.

We have now an article known as vaseline, one of the residua of petroleum, which is inodorous, and remains so while on the body, and may be applied to the most delicate skin, not only without causing discomfort, but producing really a pleasant sensation. The time for a revival of the practice of inunction has arrived, and need not be again driven into obscurity, because of the offensiveness of the remedy applied.

I think the most appropriate manner of again drawing the attention of the profession to the advantages of inunctions to the whole surface of the body, is to reproduce as much of the original investigator's

paper, as will show both the history of its origin and the results of its practice, as achieved by him.

The whole article is so decidedly practical, and written in so connected a manner, that it is difficult to quote from it, without impairing, to some extent, the force of that which is quoted.

In this article he says that his attention was-called by a medical friend, "to the healthy and robust appearance of the operatives in the woolen manufactories. The operatives themselves attributed the immunity which they enjoyed, from consumption, to the free external application of oil to their bodies, which occurred in various parts of the manufacture of woolen fabrics."

In making further observations on this subject, he found that the same immunity exists in other woolen factories. Another medical friend writes to him in the following terms: "I find the opinion is very general, or rather universal, that the employment is remarkably healthy, the workers being rarely, or never known to suffer from consumption or other chest affections, such as coughs, bronchitis or asthma."

Dr. Wilson, of Iwerness, writes to him that "it is a popular notion that the workers employed are peculiarly exempt from phthisis and scrofula. The proprietor and manager of the mills inform me that delicate and weakly children improve after admission to the works."

Dr. Joseph Bell, one of the medical inspectors of Glasgow, writes to him as follows: "There is no doubt in my mind, that workers in our woolen factories are more robust, florid and healthy looking than

those employed in our cotton factories. I have seen several workers enter the woolen factories, pale and emaciated, having been previously employed in cotton mills, becomes, in the course of a few months, fat, rudy and in every respect contrasting strongly with their feeble, sickly appearance when I first saw them. One woman who labors under bronchitis, informed me that she is obliged to work in a woolen factory during the winter and spring months, as otherwise her cough and dyspnœa becomes intolerable. I have examined two other females who exhibited symptoms of incipient phthisis, but after working a few weeks in the wool-mills, these symptoms disappeared and their general health became excellent."

Dr Simpson received from other physicians, letters of the same purport.

As to the cause of the comparative exemption, some have attempted to explain that it was their hygienic state that was the possible result of their healthy condition, or their exemption from chest complaints, or that it was attributed to the sanitary nature of the factory labor itself.

These two supposed explanations he examined carefully, and concluded as follows: "In other words, the multiplied testimony adduced regarding the health of the workers, at the numerous cotton factories of this country, shows that the mere nature of the work at the mill produces no immunity in those employed from consumptive and tubercular affections, and consequently, it follows, that if in any variety of mill-working, such an exemption was found, this exemption could not be ascribed to the mere character of the factory labor or mill-work itself. And when

we find that, while the cotton mill-workers are not free from consumption and struma, the wool mill-workers are comparatively exempt, we must evidently search for the cause of this difference and exemption in some peculiarities connected with the wool-making itself.

“The great difference and peculiarity in woolen-mills, consists in the fact that while the hours, the occupation, etc., are much the same in each, in the woolen-mills a very large quantity of oil is used, and the bodies of the workers are brought in various ways freely in contact with it. It is, I believe, in this one item that the great difference between cotton-working and wool-working consists; and it is to this material, the oil, as freely used in some of the processes of the wool-factories, that the operatives themselves universally, and, as I believe, properly attribute the salutary nature of their occupation.

“In corroboration of the truth of this popular belief that the good effects of the woolen-factory labors are ascribable to the oil employed, I have to state two points, viz.: that,

“1. Similar exemption from scrofula and consumption is observed in other classes of workmen whose employment brings them in the same way, freely in contact with fats or oils, as tallow chandlers, oil men, etc., and,

“2. In the wool-factories the degree of exemption among operatives themselves, is by no means equal in all the processes of the manufacture, but is regulated by the more or less oily nature of the departments of work in which they are engaged in the mills; so that they in general, markedly improved in appearance and health when set to work at the more oily pro-

cesses; and often as markedly decline after leaving them."

This is followed by giving the weight of some of the workers at the time they commenced to operate in the more oily employments, and weighing them again after having been at work a few months, showing a very marked increase.

"The fine appearance," he adds, "of the young workers, their rapid improvement when set to work in oil, their declension when they discontinue it, leave no doubt on my mind that the oil is the salutary agent."

In mentioning the mode or channels by which the oil may enter the system he says: "Under such circumstances, we may suppose the oil to enter the bodies of the operatives by one of two channels, either by inhalation through the mucous membrane of the lungs, or by cutaneous application and absorption." He concludes on this point, that, "In all likelihood the more important, if not the only channel by which the oil gains access to the system, in the case of the woolen operatives, is by its cutaneous application." "In the living human subject, we can readily gain clinical proof of the facility with which warm oil can be rubbed into the skin, by watching the rapidity with which the liquid disappears from, and is absorbed from the surface of those who use oil-frictions, and particularly in the case of such persons as have followed the practice for a considerable time, and in whom the power of cutaneous absorption is hence increased. Besides, we have a further proof of this cutaneous absorption of oil, in the fact that those who use oil-frictions, show exactly the same special consti

tual effects from this mode of introducing it, as those who introduce oil into the system by swallowing it."

Of the systematic oil-inunction as a medicinal measure, he says: "In tubercular and other cases, these effects are sometimes as distinctly, though perhaps not as frequently, obtained from the external inunction of olive oil, as by the swallowing of cod liver oil. I have seen a similar amelioration in the constitution and local symptoms of the malady, and a similar improvement in the general health occurs under one as under the other practice; one may, if necessary, be sometimes temporarily substituted for the others; or both employed at once when there is no contra-indication to their combined and more certain action. *The restoration of the function of the skin, and the suppression of the hectic perspiration more rapidly and surely follows external inunction.* The increase in the weight of the body, which has been so much and justly insisted on as a favorable sign under the internal use of cod liver oil. In a case in which the increase was specially watched, under external oil-inunction alone, the patient, who was carefully weighed, in forty-two days, increased twenty-four pounds in weight, a rate nearly as high as any, I believe, ever observed to occur under the employment of cod liver oil internally. This patient's stomach could not retain cod liver or other oil in any form that was tried. I have seen a child two years old, increase in weight an ounce a day, for eight weeks, under assiduous oil inunctions, its stomach having for some time previously rejected oils and most other food, when swallowed. And in the external use of oil, increase in weight obtained, is often

greater than the mere weight of the oil introduced into the system."

In mentioning the disease and circumstances into which oil-rubbing is indicated, he says: "Inanition, by whatever cause produced, and particularly when dependent on mal-nutrition or mal-assimilation, and combined with *a dry and disordered state of the skin*,¹ the practice is often most advantageous." * * *

*"The practice itself guards weak constitutions against the effects of changes of temperature and weather; and the feeling of cold and tendency to catarrh and chilliness,"*¹ attended upon various debilitated states, is sometimes arrested and averted by oil-inunctions."

He recommended that the oil selected be bland and inodorous: that it be applied moderately warm, and with a considerable amount and duration of friction; that the oil and friction should be applied to the whole cutaneous surface of the trunk and extremities, using "about a wine-glassfull of oil; that the application may be practiced twice or oftener in twenty-four hours, especially with children; that the best time for a single daily oil-inunction is immediately before retiring to bed, and that to save the bed-clothes, the patient should sleep in a dress of flannel, cotton or other material that stretches beyond the feet. He also advised that the body be sponged with tepid water, immediately before the application is made."

The greater hindrance to this mode of treatment, was, as I have already stated, the impossibility of procuring an oil that was inodorous. I think this must be the only reason why Dr. Simpson's suggestions

1. Italicized by the Author.

have been for so many years disregarded. Happily this objection is now removed. We have in vaseline, an article that is perfectly inodorous and is not liable to become rancid on the body, as do other oils and fats. An objection to be urged is its tediousness, fifteen to twenty minutes being necessary to devote to the inunction.

The best means to employ for application is a wool-en rubber, made by sewing ten or twelve layers of flannel on the faceside of a cotton or woolen glove; by slipping the hand into the glove, the application is more easily made than by any other means. After it is once saturated from the repeated inunctions, a tea-spoonful of vaseline spread on the rubber and held close to the fire until quite hot, will be sufficient for one application, which should be made briskly and with a considerable degree of pressure.

The temperature of the room should be about 90° F., all the clothing of the patient should be removed except the stocking-knit drawers and stockings. The exposed portion of the body and arms should be well and briskly rubbed with the hot woolen rubber, into which the vaseline has penetrated, for from seven to ten minutes on an adult, and half this length of time on a child. After this portion of the body has been anointed, the stocking-knit undershirt should be put on. The drawers and stockings should then be removed, and the remainder of the body treated in the same manner, occupying about the same length of time.

Persons thin in flesh, feel immediately after the application, a sensation of warmth pervading the whole body, the feet and hands included; but more particularly so if these members have been habitually cold. Chills that course up and down the back between the shoulders are arrested, night sweats abated and very many times soon disappear entirely.

The effect of the friction is to redden the surface by increasing the circulation, which induces a temporary warmth of the body, but I believe it is due to the inunction that the warmth is made permanent. I have had my patients try the following experiment, and it indicates that the permanency of the warmth is due to the presence of the vaseline, viz.: To rub one extremity with a hot flannel alone, and another with a hot flannel saturated with hot vaseline. The extremity upon which the application of vaseline was made, remained warmer during the day than the one rubbed with the hot flannel only.

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